

Before the  
Federal Communications Commission  
Washington, D.C. 20554

In the Matter of )  
 )  
Annual Assessment of the Status of Competition in ) MB Docket No. 15-158  
the Market for the Delivery of Video Programming )

SEVENTEENTH REPORT

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## I. EXECUTIVE SUMMARY

1. This is the seventeenth report (17<sup>th</sup> Report or Report) of the Federal Communications Commission to the United States Congress on the status of competition in the market for the delivery of video programming as required by Section 628(g) of the Communications Act of 1934, as amended (the Act or Communications Act).<sup>1</sup> In this Report, we focus on developments in the video marketplace in 2014. Herein, we categorize entities into one of three groups – multichannel video programming distributors (MVPDs),<sup>2</sup> broadcast television stations,<sup>3</sup> and online video distributors (OVDs).<sup>4</sup> We

<sup>1</sup> 47 U.S.C. § 548(g).

<sup>2</sup> For purposes of this Report, MVPDs are entities that offer multiple channels of video programming to consumers for a subscription fee. The term “MVPD” is defined more fully below in Sec. III.A.1.

<sup>3</sup> We consider broadcast television stations separately for this Report, as we have done in previous reports. Although full-power television stations have transitioned to digital transmission and have the capability to offer additional multicast linear digital channels, they still offer far fewer programs and channels than are available from MVPDs, and do not provide a subscription service. Accordingly, we treat broadcasters as a separate group. See 47 U.S.C. § 521(1); S. REP. NO. 102-92, at 8-12 (1991). See also *General Motors Corporation and Hughes Electronics Corporation, Transferors, and The News Corporation Limited, Transferee for Authority to Transfer Control*, MB Docket No. 03-124, Memorandum Opinion and Order, 19 FCC Rcd 473, 509, para. 75 (2004) (citing *Competition*, (continued....))

describe the providers of delivered video programming in each group, summarize their business models and competitive strategies, and present selected operating and financial statistics.

2. The most significant trends since the last report include the continuing development, and consumer usage, of time and location shifted viewing of video programming, the expansion of digital and high definition programming, and the progress of the online video industry. The following is an overview of our findings.

3. *MVPDs*. In the last report, we noted that 2013 marked the first-ever decline in total MVPD video subscribers and that the decline was due to a decrease in cable MVPD subscribers. These trends continued in 2014. From year-end 2013 to year-end 2014, the total number of MVPD video subscribers dropped from 101.7 million to 101.6 million households. While telephone MVPD subscriptions rose from 11.8 million to 13.2 million households and Direct Broadcast Satellite (DBS) MVPD video subscriptions held steady at 34.4 million households, cable MVPD subscription dropped from 55.1 million to 53.7 million households.

4. To respond to this trend as well as the increased viewing of OVDs, MVPDs continue to create and deploy video services similar to those offered by OVDs.<sup>6</sup> These proprietary services, referred to as “TV Everywhere,” allow MVPD subscribers to access both linear and video-on-demand (VOD) programming on a variety of in-home and mobile Internet-connected devices authorized by an MVPD. While the number of people using TV Everywhere did not increase during 2014, viewing time by existing users of TV Everywhere did increase, by 63 percent. The number of TV Everywhere users, however, continues to lag well behind the subscriber numbers for the largest OVDs.

5. MVPDs continue to increase video revenue, in part, by raising the prices charged for video services. From 2013 to 2014, cable video revenue increased 1.3 percent, from \$61.5 billion to \$62.3 billion, and DBS video revenue increased 5.2 percent, from \$38.6 billion to \$40.6 billion. Nonetheless, data show that the additional video revenue generated has failed to keep up with increased MVPD costs, especially programming costs. In 2014, the average video profit margin for the three largest cable MVPDs (by subscribers) fell from 19.2 percent to 17.3 percent.

6. To free up bandwidth for additional services, such as additional digital or high definition (HD) channels, additional VOD programming, or faster Internet speeds, many cable MVPDs are continuing to transition from the delivery of their programming in an analog format to an “all-digital” format. At the end of 2014, this all-digital transition had reached approximately 69 percent of the collective footprints of the top eight cable MVPDs.

7. *Broadcast Television Stations*. Full-power television stations have continued to take advantage of digital broadcasting technology to offer improved service to the public. As of December 1,

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*Rate Deregulation, and the Commission’s Policies Relating to the Provision of Cable Television Services*, MM Docket No. 89-600, Report, 5 FCC Rcd 4962, 5003, para. 69 (1990)); *Application of EchoStar Communications Corporation, General Motors Corporation, and Hughes Electronics Corporation (Transferors) and EchoStar Communications Corporation (Transferee)*, CS Docket No. 01-348, Hearing Designation Order, 17 FCC Rcd 20559, 20607-09, paras. 109-115 (2002) (*EchoStar-DIRECTV HDO*).

<sup>4</sup> For purposes of this report, OVD means any entity that provides video programming by means of the Internet or other Internet Protocol (IP)-based transmission path where the transmission path is provided by a person other than the OVD. An OVD does not include an MVPD inside its MVPD footprint or an MVPD to the extent it is offering online video programming as a component of an MVPD subscription to customers whose homes are inside its MVPD footprint. See e.g. *Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses and Transfer Control of Licensees*, MB Docket No. 10-56, Memorandum Opinion and Order, 26 FCC Rcd 4238, 4357, App. A (2011) (*Comcast-NBCU Order*). Consumers need a broadband connection to receive video content from OVDs.

2014, 1,545 full-power stations (87 percent) were broadcasting in HD, up from 1,517 (85.7 percent) at the beginning of 2014. In addition to HD content, broadcasters are bringing more programming to consumers, particularly in smaller, rural markets, by expanding the availability of the four major networks and newer networks through digital multicast signals. Television broadcasters also are using Mobile DTV to bring local news and other content to consumers. As of December 2014, 145 commercial mobile DTV stations broadcast more than 160 live mobile video channels from the Top 50 television station groups.

8. The number of households relying on over-the-air broadcast service exclusive of any MVPD service increased since the last report. Nielsen Reports that this figure increased from 11.2 million television households in 2013 to 11.4 million households in 2014, representing an increase from 9.8 percent to 9.9 percent of all television households. Figures from NAB indicate that 25.1 million television households, or 21.9 percent of all television households, rely exclusively on over-the-air television service on at least one television in the home.

9. *OVDs*. The OVD industry continues to evolve. OVDs are expanding the amount of video content available to consumers through original programming and new licensing agreements with traditional content creators. Some OVDs, like Netflix, have invested in their own servers, content delivery networks, and other infrastructure to facilitate the delivery of video programming to consumers. Technology companies like Amazon, Apple, and Google continue to deliver solutions that include Internet infrastructure, software, devices, and video programming.

10. The continued proliferation of Internet-enabled technology allows consumers to view OVD content on multiple devices. In 2014, 90.9 million U.S. households were equipped with high-speed data connections, and these households used an average of 7.3 Internet devices, including game consoles, streaming media devices, Internet-connected televisions and Blu-ray players, tablets, and home computers. Several OVDs report growth in consumers' use of mobile devices to view video content.

11. OVDs account for an increasing portion of Internet traffic during peak hours. Sandvine reports that in September 2014 streaming video accounted for 67.53 percent of peak period downstream traffic on North American fixed networks and 39.76 percent of peak period downstream traffic on North American mobile networks.

12. Patterns of consumer behavior noted in the last report, including increases in the number of households with HD television sets, penetration of digital video recorders (DVRs), and increased availability of broadband and mobile devices, have continued. As of 2014, 98.3 million U.S. television households, or 85.0 percent of such households, have sets capable of displaying and/or receiving digital signals, including HD television signals, up from 94.7 million, or 81.8 percent of, television households, in 2013. In 2014, 54.7 million television households had DVRs, representing 47 percent of all such households, an increase from 50.9 million households, or 45 percent of all television households, in 2013. In addition, broadcasters continue to use a variety of mechanisms to respond to consumers' desire to watch video on a time-shifted basis either on television sets or on other screens, including mobile DTV, VOD, online video distribution, and social media.

## II. INTRODUCTION

### A. Scope of the Report

13. Section 19 of the Cable Television Consumer Protection and Competition Act of 1992 (1992 Cable Act)<sup>5</sup> amended the Communications Act and established regulations with the goal of

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<sup>5</sup> 1992 Cable Act, Pub. L. No. 102-385, § 19, 106 Stat 1460, 1494 (1992) (“The purpose of this section is to promote the public interest, convenience, and necessity by increasing competition and diversity in the multichannel video programming market, to increase the availability of satellite cable programming and satellite broadcast

(continued....)

increasing competition and diversity in multichannel video programming distribution, increasing the availability of satellite delivered programming, and spurring the development of communications technologies.<sup>6</sup> To measure progress toward these goals, Congress required the Commission to report annually on “the status of competition in the market for the delivery of video programming.”<sup>7</sup>

### B. Analytic Framework

14. We first categorize entities that deliver video programming into one of three groups: MVPDs, broadcast television stations, and OVDs.<sup>8</sup> Second, we describe the providers of delivered video programming in each group, summarize their business models and competitive strategies, and present selected operating and financial statistics.<sup>9</sup> We consider such factors as:

- *Providers*: The number, size, and footprint of the entities in the group, horizontal and/or vertical concentration, regulatory and market conditions affecting entry, and any recent entry or exit from the group.
- *Business Models and Competitive Strategies*: The technologies entities employ to deliver programming, pricing plans, and product and service differences.
- *Selected Operating and Financial Statistics*: Statistics related to the number of subscribers or viewers, revenue, and other financial indicators.

Third, we discuss consumer premises equipment and mobile devices that consumers use for viewing video programming.

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programming to persons in rural and other areas not currently able to receive such programming, and to spur the development of communications technologies.”).

<sup>6</sup> Video programming is defined as: “Programming provided by, or generally considered comparable to programming provided by, a television broadcast station.” 47 U.S.C. § 522(20). *See also* 47 CFR § 76.5(ff); 47 CFR § 79.1(a)(1).

<sup>7</sup> *See* Section 628(g) of the Act, 47 U.S.C. § 548(g). The Commission’s previous reports appear at: *Implementation of Section 19 of the 1992 Cable Act and Annual Assessment of the Status of Competition in the Market for the Delivery of Video Programming*, 9 FCC Rcd 7442 (1994); 11 FCC Rcd 2060 (1995); 12 FCC Rcd 4358 (1997); 13 FCC Rcd 1034 (1998); 13 FCC Rcd 24284 (1998); 15 FCC Rcd 978 (2000); 16 FCC Rcd 6005 (2001); 17 FCC Rcd 1244 (2002); 17 FCC Rcd 26901 (2002); 19 FCC Rcd 1606 (2004); 20 FCC Rcd 2755 (2005); 21 FCC Rcd 2503 (2006); 24 FCC Rcd 542 (2009); 27 FCC Rcd 8610 (2012); 28 FCC Rcd 10496 (2013); and 30 FCC Rcd 3253 (*16<sup>th</sup> Report*).

<sup>8</sup> Our placement of entities into groups is an organizational tool to facilitate the presentation of information. This approach is useful for several reasons. First, the three categories reflect the historical evolution of video programming as initially delivered by over-the-air broadcast television stations, then also through MVPDs, and, more recently, via the Internet by OVDs. Second, to some degree the groupings reflect market participants’ self-identification. Entities within each group tend to identify other entities in the same group as their foremost competitors in marketing materials and when describing their businesses to shareholders. Third, the business models of entities within a group share more similarities than the business models of entities across groups. Finally, this organization parallels available data sources; some focus on one group (*e.g.*, BIA Kelsey, which focuses on broadcast) and others separately organize data in the same manner we propose (*e.g.*, SNL Kagan).

<sup>9</sup> *See* Michael E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, 129-155 (1980). Although the organization of this report is consistent with the prior reports, we have changed the section titles and terminology to help clarify the content of data and information contained in this report. *See* Dennis W. Carlton & Jeffrey M. Perloff, *Modern Industrial Organization*, 2-12 (2d ed. 1994) (describing modern price theory consistent with the content of the various sections of this report).

### C. Data Sources

15. This Report focuses on data for year-end 2014, which we compare with data for year-end 2013. The information and data presented in this Report are based, in part, on comments we received from interested parties in response to the Public Notice seeking data, information, and comment in this proceeding.<sup>10</sup> In addition, we rely on a variety of publicly available sources of industry information and data including: Securities and Exchange Commission filings; data from trade association and government entities; data from securities analysts and other research companies and consultants; company news releases and websites; newspaper and periodical articles; scholarly publications; vendor product releases; white papers; and various public Commission filings, decisions, reports, and data. We make use of both individual company data and industry-wide data. In addition, to the extent we find more recent Commission decisions and industry developments relevant, we include this information.

## III. PROVIDERS OF DELIVERED VIDEO PROGRAMMING

### A. Multichannel Video Programming Distributors

#### 1. MVPD Providers

16. An MVPD is an entity that makes available for purchase multiple channels of video programming.<sup>11</sup> We include an entity in the MVPD group based on the similarity of the video services offered.<sup>12</sup> Today, the major MVPDs offer hundreds of linear television channels, thousands of non-linear video-on-demand (VOD) programs, as well as pay-per-view (PPV) programs.<sup>13</sup> In addition to delivering video programming to television sets, today's MVPDs may choose to deliver video programming to computer screens, tablets, and mobile devices. Although the focus of this Report is delivered video services, most of today's MVPDs also offer Internet and phone services as core elements of their business models.

17. At the end of 2014, the MVPD group included seven cable MVPDs with over one million basic video subscribers each (Comcast, Time Warner Cable, Charter, Cox, Cablevision, Bright House, and Suddenlink), 14 cable MVPDs with 100,000 to one million basic video subscribers each, 15 cable MVPDs with 20,000 to 100,000 basic video subscribers each, and hundreds of smaller cable MVPDs –

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<sup>10</sup> See *Media Bureau Seeks Comment on the Status of Competition in the Market for the Delivery of Video Programming*, MB Docket No. 15-158, Public Notice, 30 FCC 7114 (2015) (*Notice*).

<sup>11</sup> Section 602(13) of the Act defines MVPD as “a person such as, but not limited to, a cable operator, a multichannel multipoint distribution service, a direct broadcast satellite service, or a television receive-only satellite program distributor, who makes available for purchase, by subscribers or customers, multiple channels of video programming.” 47 U.S.C. § 522(13). In December 2014, the Commission adopted a Notice of Proposed Rulemaking that proposes to include in the definition of MVPD entities that make available for purchase, by subscribers or customers, multiple channels of linear video programming, regardless of the means used to distribute the programming. *Promoting Innovation and Competition in the Provision of Multichannel Video Programming Distribution Services*, MB Docket No. 14-261, Notice of Proposed Rulemaking, 29 FCC Rcd 15995 (2014) (*MVPD NPRM*). That proceeding remains pending.

<sup>12</sup> There are little or no publicly or commercially available data concerning large home satellite dish (or C-Band) service providers, open video systems, electric and gas utilities providing video services, wireless cable systems, private cable operators, commercial mobile radio services, or other wireless providers. SNL Kagan estimates that these MVPDs served approximately 400,000 subscribers in 2014 (*i.e.*, less than 0.5 percent of all MVPD subscribers). See SNL Kagan, *Cable TV Investor: Deals & Finance*, Aug. 25, 2014, at 2 (*Cable TV Investor*). For these reasons, such providers are not included in this Report.

<sup>13</sup> Linear channels offer video programs on a specific channel at a specific time of day. VOD programs allow consumers to select and watch video programs whenever they request them. Some PPV programs are offered as VOD and others are special events (*e.g.*, championship boxing matches) that are pre-scheduled.

most of them with fewer than 1,000 basic video subscribers.<sup>14</sup> In addition, the MVPD group included two DBS MVPDs (DIRECTV and DISH Network), each with over one million video subscribers, two telephone company MVPDs (AT&T and Verizon) with over one million video subscribers, and numerous smaller telephone company MVPDs.<sup>15</sup>

18. At the end of 2014, cable MVPDs accounted for 52.8 percent of all MVPD subscribers, down from 54.2 percent at the end of 2013.<sup>16</sup> DBS MVPDs accounted for 33.8 percent of MVPD subscribers at the end of 2014, a slight change from the 33.7 percent reported at the end of 2013.<sup>17</sup> Telephone MVPDs accounted for 13.0 percent of MVPD subscribers at the end of 2014, up from 11.6 percent at the end of 2013.<sup>18</sup>

19. Based on available data, we estimate the number of homes passed by cable, DBS, and telephone MVPDs for year-end 2013 and 2014 in Table III.A.1.<sup>19</sup> According to SNL Kagan, there were 132.9 million homes in 2013 and 133.5 million homes in 2014.<sup>20</sup> We assume that DBS MVPDs are available to all homes although we recognize that in reality physical features (e.g., tall buildings, terrain, and trees) prevent some homes from receiving DBS signals, so our estimates slightly overstate the availability of DBS. Based on limitations in the available data, our estimates for homes passed by

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<sup>14</sup> SNL Kagan, <https://www.snl.com/InteractiveX/TopCableMSOs.aspx?period=2014Q4&sortcol=subscribersbasic&sortorder=desc> (last visited Aug. 31, 2015). On May 26, 2015, Charter Communications Inc. and Time Warner Cable, Inc. announced that they had entered into a definitive agreement for Charter to merge with Time Warner Cable. In addition, Charter and Advance/Newhouse Partnership (a parent of Bright House Networks, LLC) announced that Charter will acquire Bright House Networks. See *Application of Charter Communications, Inc., Time Warner Cable Inc., and Advance/Newhouse Partnership for Consent to the Transfer of Control of Licenses and Authorizations*, MB Docket No. 15-149, Public Interest Statement (filed June 25, 2015). On September 16, 2015, Cablevision and Altice entered into an Agreement and Plan of Merger, pursuant to which Altice will acquire 100 percent of the shares of Cablevision. See *Applications for Authority Pursuant to Section 214 of the Communications Act of 1934, as Amended, to Transfer Control of Authorizations from Cablevision Systems Corporation to Altice N.V.*, WC Docket No. 15-257 (filed Oct. 14, 2015). Altice also recently acquired control of Cequel Corporation (d/b/a Suddenlink Communications) and its subsidiaries pursuant to Commission consent granted December 18, 2015. See *Applications for Authority Pursuant to Section 214 of the Communications Act of 1934, as Amended, to Transfer Control of Authorizations from Cequel Corporation to Altice S.A.*, Memorandum Opinion and Order, DA 15-1451, WC Docket No. 15-135 (Dec. 18, 2015).

<sup>15</sup> In July 2015, the Commission approved the merger of AT&T and DIRECTV. Because this Report focuses on information as of year-end 2014, however, we treat the companies separately. See *Applications of AT&T and DIRECTV for Consent to Assign or Transfer Control of Licenses and Authorizations*, MB Docket No. 14-90, Memorandum Opinion and Order, 30 FCC Rcd 9131 (2015) (*AT&T and DIRECTV MO&O*).

<sup>16</sup> SNL Kagan, <https://www.snl.com/interactivex/MultichannelIndustryBenchmarks.aspx?startYear=2013&endYear=2014> (last visited Sept. 2, 2015).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.*

<sup>19</sup> We use the term “homes or households” but actually report housing units. A housing unit is a house, an apartment, a mobile home or trailer, a group of rooms, or a single room that is occupied, or, if vacant, is intended for occupancy as separate living quarters.

<sup>20</sup> Data for the number of homes come from SNL Kagan, <https://www.snl.com/interactivex/MultichannelIndustryBenchmarks.aspx?startYear=2013&endYear=2014> (last visited Sept 2, 2015).

telephone MVPDs include the largest telephone MVPDs but do not include many smaller telephone MVPDs.<sup>21</sup> For that reason, our estimates slightly understate the availability of telephone MVPDs.

**Table III.A.1**  
**Homes Passed by MVPDs (in millions)**

	Year-End 2013	Year-End 2014
<b>Cable<sup>22</sup></b>	<b>131.6</b>	<b>132.2</b>
Comcast	53.8	54.7
Time Warner	29.9	30.5
Charter	12.8	12.9
Cox	10.4	10.5
Cablevision	5.0	5.0
<b>DBS</b>	<b>132.9</b>	<b>133.5</b>
DIRECTV	132.9	133.5
DISH Network	132.9	133.5
<b>Telephone<sup>23</sup></b>	<b>48.5</b>	<b>51.1</b>
AT&T U-verse	27.0	28.0
Verizon FiOS	18.6	19.8
CenturyLink	2.1	2.4
Consolidated Comm.	0.5	0.6
Cincinnati Bell	0.3	0.3

20. *Horizontal Concentration.* Market concentration and consumer options are indicators of competition in the MVPD marketplace. Specifically, consumers who want to subscribe to a pay-TV

<sup>21</sup> SNL Kagan does not provide estimates for total telephone MVPD homes passed but does provide estimates of homes passed for the largest telephone MVPDs. Not all telephone MVPDs provide estimates of homes passed in their financial reports and we know of no data source that provides company-by-company or aggregate homes passed estimates for telephone MVPDs. Excluding AT&T and Verizon, SNL Kagan estimates the remaining telephone MVPDs accounted for approximately 1.4 million video subscribers at the end of 2014. *Cable TV Investor*, June 19, 2015, at 7.

<sup>22</sup> Data for the five largest cable MVPDs come from SNL Kagan, <https://www.snl.com/InteractiveX/TopCableMSOs.aspx?period=2013Q4&sortcol=subscribersbasic&sortorder=desc> and <https://www.snl.com/InteractiveX/TopCableMSOs.aspx?period=2014Q4&sortcol=subscribersbasic&sortorder=desc> (last visited Sept. 9, 2015).

<sup>23</sup> For telephone MVPDs, we add estimates for AT&T, Verizon, CenturyLink, Consolidated Communications, and Cincinnati Bell. Individual company data come from the following sources. AT&T *2013 Annual Report*, at 22. AT&T announced that at the end of 2014, it had substantially completed its VIP network upgrade plan, which, when initially announced, included a potential U-verse market of 33 million homes. See AT&T *2014 Annual Report* at 2; AT&T, *AT&T to Invest \$14 Billion to Significantly Expand Wireless and Wireline Broadband Networks, Support Future IP Data Growth and New Services* (press release), Nov. 7, 2012. However, AT&T stopped providing data for homes passed in its 2014 financial reports. As such, we use SNL Kagan's 28 million video homes passed estimate. *Cable TV Investor*, Feb. 23, 2015, at 16. Verizon, *Investor Quarterly Fourth Quarter 2013*, Jan. 21, 2014, at 6; Verizon, *Investor Quarterly Fourth Quarter 2014*, Jan. 22, 2015, at 7. CenturyLink *2014 Annual Report*, at 3; Consolidated, *SEC Form 10-K for the Year Ended December 31, 2013*, at 8; Consolidated, *SEC Form 10-K for the Year Ended December 2014*, at 39; Cincinnati Bell, *SEC Form 10-K for the Year Ended December 2013*, at 35; Cincinnati Bell, *SEC Form 10-K for the Year Ended December 2014*, at 37.

service may compare the video packages and prices from the MVPDs offering services to their home address, then subscribe to the MVPD that best matches their preferences. Thus we consider the number of MVPDs available to a household as a measure of competition for MVPD video services. DIRECTV and DISH Network have national footprints and almost all consumers nationwide have access to both DBS MVPDs. Cable MVPDs are available to over 99 percent of homes.<sup>24</sup> As a general rule, cable MVPDs exist in non-overlapping franchise areas and as a result do not compete directly with one another for the same subscriber, so most consumers have access to only one cable MVPD. Where cable overbuilders exist (*e.g.*, RCN or WOW!), consumers have access to more than one cable MVPD. Ordinarily there is not more than one such overbuilder in a particular geographic area.<sup>25</sup> Telephone MVPDs rarely compete with one another for the same subscriber; however, they almost always overbuild areas already served by at least one cable company. Using these observations, we estimate the number and percentage of homes with access to two, three, or four MVPDs (see Table III.A.2). Although most consumers have access to three MVPDs (two DBS MVPDs and a cable MVPD), a growing number of consumers also have access to a telephone MVPD, for a total of four MVPDs. At the end of 2014, we estimate that over 38.3 percent of homes had access to four MVPDs.

**Table III.A.2**  
**Access to Multiple MVPDs**

	<b>Homes 2013</b>	<b>Percent of Homes 2013</b>	<b>Homes 2014</b>	<b>Percent of Homes 2014</b>
Two MVPDs (DBS)	132.9 million	100%	133.5 million	100%
Three MVPDs (DBS and Cable)	131.6 million	99%	132.2 million	99%
Four MVPDs (DBS, Cable, and Telephone)	48.5 million	36.5%	51.1 million	38.3%

21. *Vertical Integration.* Common ownership of entities that *deliver* and entities that *supply* video programming may have implications for competition and programming diversity in the MVPD market. Thus, Congress enacted various provisions related to vertical integration between cable operators and programming networks (*e.g.*, program access, program carriage, channel occupancy limit).<sup>26</sup>

<sup>24</sup> SNL Kagan no longer provides estimates for the number of homes passed excluding overbuilders. However, SNL Kagan data from 2012, show that cable MVPDs provided video service to 99.7 percent of homes (132.6 million homes passed/133.0 million total homes) and data from 2013, also show that cable MVPDs provided video service to 99.7 percent of homes (133.4 million homes passed/133.8 million total homes). See *16<sup>th</sup> Report* 30 FCC Rcd 3265, Table 1.

<sup>25</sup> The available data do not permit us to calculate how many homes have access to two cable MVPDs. SNL Kagan estimates that cable overbuilders have a total of roughly one million video subscribers nationwide. *Cable TV Investor*, Sept. 28, 2015, at 12.

<sup>26</sup> See 47 U.S.C. §§ 533, 536, 548. In 1992, a large number of the most popular cable programming networks were owned by cable operators. Congress was concerned that cable operators had the ability and incentive to thwart the competitive development of additional programming networks by refusing to carry unaffiliated networks or by insisting on an ownership stake in return for carriage. See 47 U.S.C. § 536. Congress was also concerned that cable operators had the ability and incentive to thwart competition in the video distribution market by withholding their most popular programming networks from rival MVPDs. See 47 U.S.C. § 548.

Although any vertically integrated MVPD may have incentives to withhold its owned channels from rivals, the obligations regarding program access apply only to cable operators and telephone MVPDs,<sup>27</sup> while the benefits apply to all MVPDs.

22. In the last report, we found that there were 99 national programming networks (47 were HD networks) affiliated with the top five cable MVPDs.<sup>28</sup> In addition, we identified 62 national networks that were affiliated with a DBS MVPD (24 in HD).<sup>29</sup> More recent data show that vertical integration declined slightly for cable MVPDs and significantly for DBS MVPDs. Data for March 2016 show 94 national networks affiliated with the top six cable MVPDs (and 44 HD networks) and specifically that Comcast has ownership interests in 52 national networks (24 in HD), Time Warner Cable has ownership interests in four national networks (two in HD), Cox has ownership interests in six national networks (three in HD), and Bright House has ownership interests in 26 national networks (12 in HD).<sup>30</sup> In addition, we identified six national networks that were affiliated with DIRECTV (three in HD).<sup>31</sup> A summary of MVPD ownership of programming networks is included in Appendix B, Table B-1; Appendix C, Table C-1; and Appendix D of this Report.<sup>32</sup>

**a. Regulatory Conditions Affecting Competition**

23. MVPDs must obtain the appropriate regulatory authority before providing video services and are subject to several Commission rules implicating the operation of their services, which vary depending on whether the entity is a cable MVPD or a non-cable MVPD. These rules include regulations that govern an MVPD's franchising and licensing,<sup>33</sup> program access,<sup>34</sup> must-carry and retransmission consent,<sup>35</sup> protection of exclusive broadcast distribution rights,<sup>36</sup> public interest programming,<sup>37</sup> access to multiple dwelling units (MDUs),<sup>38</sup> and over-the-air reception device (OTARD) regulations.<sup>39</sup> Many of these rules have remained unchanged since the last Report, and we do not discuss them here.<sup>40</sup> Below, we

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<sup>27</sup> See 47 U.S.C. § 548(j).

<sup>28</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3269, para. 34.

<sup>29</sup> *Id.*

<sup>30</sup> For a list of the national networks owned by MVPDs, see Appendix B, Table B-1 and Appendix C, Table C-1, and Appendix D.

<sup>31</sup> *Id.* See also DIRECTV, *SEC Form 10-Q/A for the Quarterly Period Ending June 30, 2015*, at 6.

<sup>32</sup> We also identify national cable networks affiliated with a broadcast television network, broadcast television licensee, or other media company (Appendix B, Table B-2) and regional networks affiliated with a broadcast television network, broadcast television licensee, or other media company (Appendix C, Table C-2).

<sup>33</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3270, paras. 36-37.

<sup>34</sup> *Id.* at 3271-72, paras. 39-40.

<sup>35</sup> *Id.* at 3274-77, paras. 45-49.

<sup>36</sup> *Id.* at 3277, para. 50.

<sup>37</sup> *Id.* at 3279-80, paras. 56-57.

<sup>38</sup> *Id.* at 3280, para. 58.

<sup>39</sup> *Id.* at 3280-81, para. 59.

<sup>40</sup> Many commenters in this proceeding argue generally that the Commission should modify its rules to better reflect the current state of the video programming market. See CenturyLink Comments at 3-4; FilmOn X Comments at 11-12; NAB Comments at 1; NTCA Comments at ii-iii; Free State Comments at 1-3; Verizon Comments at 1-2; Comcast Reply at 20; COMPTTEL Reply at 4; Morgan Wick Reply at 1; NCTA Reply at 4.

discuss several new and modified rules affecting MVPDs adopted since the *16th Report*.<sup>41</sup>

24. *Effective Competition*. On June 2, 2015, the Commission amended its rules regarding effective competition.<sup>42</sup> Previously, the rules presumed that cable systems were not subject to effective competition, and franchising authorities were permitted to regulate cable operators' basic cable service rates if they received certification to do so.<sup>43</sup> Under the prior rules, cable operators could petition the Commission to demonstrate that effective competition did exist in a specific cable community in order to be relieved of the franchising authority's basic rate regulation.<sup>44</sup> The Commission would find a cable operator to be subject to effective competition in a local community when one of four statutory tests was met: (1) fewer than 30 percent of the households subscribe to the operator's cable programming service; (2) at least two unaffiliated MVPDs provide comparable video programming to at least 50 percent of the households in the franchise area and at least 15 percent of the franchise area's households subscribe to MVPDs other than the largest MVPD in the area; (3) a municipality offers MVPD service to at least 50 percent of its households; or (4) a local exchange carrier or its affiliate, or an MVPD using the facilities of a local exchange carrier or its affiliate, offers comparable video programming services by means other than DBS to an area that an unaffiliated cable operator also serves.<sup>45</sup>

25. In June 2015, the Commission issued a Report and Order that adopted a rebuttable presumption that cable operators are subject to "Competing Provider Effective Competition."<sup>46</sup> The Commission concluded that the video competition market has changed dramatically since the original presumption was adopted over two decades ago. Based on 2013 figures, the Commission found that cable operators faced competition from DBS service providers in virtually all communities, and roughly 26 percent of households nationwide subscribed to DBS service – nearly double the percentage of

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<sup>41</sup> We do not address the Commission's program carriage rules, as they remain unchanged since the *16th Report*. See *16th Report*, 30 FCC Rcd at 3272-73, para. 41. In the *16th Report*, the Commission noted that litigation was pending in two separate program carriage cases involving the Tennis Channel and Game Show Network. *Id.*, n.110. That litigation is still pending.

<sup>42</sup> *In the Matter of Amendment to the Commission's Rules Concerning Effective Competition, Implementation of Section 111 of STELA Reauthorization Act*; MB Docket No. 15-53, Report and Order, 30 FCC Rcd 6574 (2015) (*Effective Competition Order*). In August 2015, NAB, the National Association of Telecommunications Officers and Advisors, and the Northern Dakota County Cable Communications Commission filed a petition for review of the *Effective Competition Order* in the United States Court of Appeals for the DC Circuit. See John Eggerton, *NAB, NATOA Sue FCC Over Effective Competition Decision* (Aug. 28, 2015), <http://www.multichannel.com/news/fcc/nab-natoa-sue-fcc-over-effective-competition-decision/393307>. "Effective competition" is a term of art that the statute defines by application of specific tests. See 47 U.S.C. §§ 543(l)(1)(A)-(D); 47 CFR §§ 76.905(b)(1)-(4).

<sup>43</sup> 47 U.S.C. § 543(a)(2)(A); 47 CFR §§ 76.905(a), 76.907. Franchising authorities were required to obtain certification from the Commission prior to regulating the basic service tier. 47 U.S.C. § 543(a)(3)-(4); 47 CFR § 76.910. At a minimum, the basic level of cable service for cable operators subject to rate regulation must include: (1) all commercial and noncommercial local broadcast stations entitled to carriage under the Act's must-carry provisions; (2) any public, educational, and governmental access channels the franchising authority requires; and (3) any other broadcast station provided to any subscriber. 47 U.S.C. § 543(b)(7)(A).

<sup>44</sup> 47 CFR § 76.907.

<sup>45</sup> 47 CFR § 76.905(b).

<sup>46</sup> *Effective Competition Order*, 30 FCC Rcd at 6577-84, paras. 6-12. The "Competing Provider Effective Competition" test is the second of four ways with which effective competition could have been established under the previous rule. The revised changes to the effective competition rules became effective on September 9, 2015.

subscribers needed for finding Competing Provider Effective Competition.<sup>47</sup> Accordingly, a franchising authority is now prohibited from regulating basic cable rates unless it successfully demonstrates that the cable system serving the franchising authority's community is not subject to Competing Provider Effective Competition.<sup>48</sup> Franchising authorities may rebut the presumption with adequate evidence specific to the community at issue.<sup>49</sup> If a franchising authority is successful in rebutting the presumption, a cable operator may file a petition for reconsideration demonstrating that it satisfies one of the four statutory tests for establishing effective competition.<sup>50</sup>

26. *HD Carriage Exemption:* On June 10, 2015, the Commission adopted a Report and Order that modified and extended an exemption for certain small cable operators from the requirement to carry high definition (HD) broadcast signals, a requirement adopted pursuant to the "material degradation" provisions of the Communications Act.<sup>51</sup>

27. Sections 614(b)(4)(A) and 615(g)(2) of the Act require that cable operators carry signals of commercial and noncommercial broadcast television stations, respectively, "without material degradation."<sup>52</sup> In addition, Section 614(b)(4)(A) directs the Commission to adopt carriage standards to ensure that the carriage quality of commercial broadcast television stations is "no less than that provided by the system for carriage of any other type of signal" and Section 615(g)(2) requires that noncommercial broadcast television stations are carried with the "technical capacity equivalent to that provided to commercial television broadcast stations."<sup>53</sup> In the context of the carriage of digital signals, the Commission has interpreted these requirements: (i) to prohibit cable operators from discriminating in their carriage of broadcast and non-broadcast signals; and (ii) to require cable operators to carry HD broadcast signals to their viewers in HD.<sup>54</sup>

28. In 2008, the Commission granted a three-year exemption from the HD carriage requirement to certain small cable systems.<sup>55</sup> The exemption addresses concerns expressed by small cable

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<sup>47</sup> *Amendment to the Commission's Rules Concerning Effective Competition; Implementation of Section 111 of the STELA Reauthorization Act*, MB Docket No 15-53, Notice of Proposed Rulemaking, 30 FCC Rcd 2561, 2565-67, paras. 6-7 (2015); see also *Effective Competition Order*, 30 FCC Rcd at 6577, para. 4.

<sup>48</sup> *Effective Competition Order*, 30 FCC Rcd at 6583, para. 11. The change in presumption of effective competition is limited to Competing Provider Effective Competition only. The Commission will continue to presume that cable systems are not subject to Low Penetration, Municipal Provider, or LEC Effective Competition. *Id.* at 6583, para. 10.

<sup>49</sup> *Effective Competition Order*, 30 FCC Rcd at 6587, para. 17.

<sup>50</sup> 47 CFR § 76.911.

<sup>51</sup> *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules*, CS Docket No. 98-120, Sixth Report and Order, 30 FCC Rcd 6653 (2015) (*HD Carriage Exemption Order*).

<sup>52</sup> See 47 U.S.C. §§ 534(b)(4)(A), 535(g)(2); see also 47 CFR § 76.62(b)-(d), (h).

<sup>53</sup> See 47 U.S.C. §§ 534(b)(4)(A), 535(g)(2).

<sup>54</sup> See *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules*, CS Docket No. 98-120, Third Report and Order and Third Further Notice of Proposed Rulemaking, 22 FCC Rcd 21064, 21067, paras. 7-8 (2007).

<sup>55</sup> *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission's Rules*, CS Docket No. 98-120, Fourth Report and Order, 23 FCC Rcd 13618 (2008). In particular, the Commission applied the exemption to small cable systems with 2,500 or fewer subscribers that are not affiliated with a cable operator serving more than 10 percent of all MVPD subscribers, and those with an activated channel capacity of 552 megahertz or less. *Id.* at 13620-21, para. 7. The exemption from this material degradation requirement permits such systems to carry broadcast signals in standard definition digital and/or analog format, even if the signals are broadcast in HD, so long as all subscribers can receive and view the signal. *Id.* at 13620, para. 5.

operators concerning the technical aspects of, and costs associated with, transmitting the HD signals of broadcast stations without material degradation.<sup>56</sup> Cable operators state that the exemption allows small cable systems to operate without service disruptions or increased costs that, in the absence of the exemption, would force them to drop channels, increase cable rates, or exit the market altogether.<sup>57</sup> In 2012, the Commission extended the HD carriage exemption for those cable systems until June 12, 2015.<sup>58</sup>

29. In January 2015, ACA filed a petition for rulemaking asking the Commission to extend the HD carriage exemption for an additional three years and to clarify that analog-only cable systems are not subject to the HD carriage requirement because carriage of HD signals by such systems is not “technically feasible” under Section 614(b)(4)(A) of the Act.<sup>59</sup> On March 12, 2015, the Commission issued a further notice of proposed rulemaking that, among other things, proposed to extend the HD carriage exemption for three more years.<sup>60</sup> MVPDs supported the Commission’s proposal in their initial responsive pleadings while broadcasters opposed it.<sup>61</sup> After a series of discussions aimed at resolving such differences, ACA and NAB filed a joint proposal with the Commission on May 14, 2015.<sup>62</sup> The Commission adopted the rules set forth in the joint proposal, concluding that they reasonably balanced the interest of broadcast stations in having their HD signals transmitted in HD with the interest of small cable operators in upgrading their systems to carry HD broadcast signals in a manner that is cost efficient.<sup>63</sup>

30. Under the revised rules, a small cable system not offering any programming in HD after June 12, 2015 remains exempt from the HD carriage requirement.<sup>64</sup> However, beginning December 12, 2016, a system utilizing the HD carriage exemption shall no longer be eligible to use it once the system offers any programming in HD, and the system must give notice to all broadcast stations in its market that are carried on its system that it is offering HD programming.<sup>65</sup> Cable systems utilizing the HD carriage exemption on June 12, 2015 that do not qualify for the HD carriage exemption on or after June 13, 2015 are required to come into compliance by December 12, 2016.<sup>66</sup> Also, any cable system that becomes ineligible for the HD carriage exemption after December 12, 2016, is expected to come into compliance promptly.<sup>67</sup> The Commission also revised the category of small cable systems eligible for the HD carriage exemption to include those (i) serving 1,500 or fewer subscribers, and are not affiliated with a cable operator serving more than 2 percent of all MVPD subscribers, or (ii) having an activated channel capacity of 552 megahertz or less.<sup>68</sup> The rules, with the exception of the component requiring a cable

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<sup>56</sup> *HD Carriage Exemption Order*, 30 FCC Rcd at 6653, para. 1.

<sup>57</sup> *Id.* at 6654, para. 3 & n.9.

<sup>58</sup> *Carriage of Digital Television Broadcast Signals: Amendment to Part 76 of the Commission’s Rules*, CS Docket No. 98-120, Fifth Report and Order, 27 FCC Rcd 6529, 6546-49, paras. 19-23 (2012).

<sup>59</sup> *HD Carriage Exemption Order*, 30 FCC Rcd at 6654, para. 3.

<sup>60</sup> *Id.* at 6654, para. 3.

<sup>61</sup> *Id.* at 6654-55, para. 3.

<sup>62</sup> *Id.*

<sup>63</sup> *Id.* at para. 4. No industry commenter objected to the joint proposal.

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

<sup>68</sup> *Id.*

system to give notice that it is offering HD programming, took effect on July 23, 2015.<sup>69</sup>

31. *Retransmission Consent.* Pursuant to Section 325 of the Act, MVPDs may not retransmit a local broadcaster's signal without the station's express permission.<sup>70</sup> In local television markets, as defined by The Nielsen Company's (Nielsen's) designated market areas (DMAs), commercial television stations must elect either the right to grant retransmission consent or the right to receive mandatory carriage (must carry) every three years.<sup>71</sup> If a station elects retransmission consent, the broadcaster and MVPD negotiate a carriage agreement; the carriage agreement may include monetary or other types of compensation in return for the right to carry the broadcast signal.<sup>72</sup>

32. On February 13, 2015, the Commission adopted an order that amended its rules to implement three provisions of the STELA Reauthorization Act of 2014 (the STELAR) relating to retransmission consent.<sup>73</sup> The first of those provisions extended to January 1, 2020, both the requirement that MVPDs and television broadcast stations negotiate for retransmission consent in good faith, and the prohibition on broadcast stations entering into exclusive retransmission consent agreements with any MVPD.<sup>74</sup> The second provision established a prohibition on same-market television broadcast stations coordinating negotiations or negotiating on a joint basis for retransmission consent, except under certain conditions. That provision further prohibited a television broadcast station from limiting the ability of an MVPD to carry into its local market television signals that are deemed "significantly viewed" or that otherwise are permitted to be carried by the MVPD, with certain exceptions.<sup>75</sup> The final provision eliminated the prohibition on deletion or repositioning of local commercial television broadcast stations by cable operators during sweeps periods.<sup>76</sup> The rules implementing these provisions became effective on April 2, 2015.<sup>77</sup>

33. Pursuant to Section 103(c) of the STELAR, the Commission also adopted a notice of proposed rulemaking on September 2, 2015 to review the totality of the circumstances test for evaluating whether broadcast television stations and MVPDs are negotiating for retransmission consent in good faith.<sup>78</sup> The Commission sought comment on, among other things, how the retransmission consent marketplace is working and whether there is a need to update the test.<sup>79</sup> It also sought comment on

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<sup>69</sup> *Notice of July 23, 2015 Effective Date of Order Modifying and Extending HD Carriage Exemption*, CS Docket No. 98-120, Public Notice, 30 FCC Rcd 6420, 6420 n.2 (2015). The Commission stated that the notice component of the rules would not become effective until publication of a notice in the Federal Register announcing OMB approval and the effective date of that rule.

<sup>70</sup> 47 U.S.C. § 325(b).

<sup>71</sup> *Id.* § 325(b)(3)(B); 47 CFR §§ 76.56(b), 76.64.

<sup>72</sup> 47 U.S.C. § 325(b)(3)(C); 47 CFR § 76.64; *see also 16th Report*, 30 FCC Rcd at 3274-76, paras. 44-46.

<sup>73</sup> *Implementation of Sections 101, 103 and 105 of the STELA Reauthorization Act of 2014*, MB Docket No. 15-37, Order, 30 FCC Rcd 2380 (2015).

<sup>74</sup> *Id.* at 2380, para. 1, 2381, para. 3.

<sup>75</sup> *Id.* at 2382, para. 5.

<sup>76</sup> *Id.* at 2382, para. 6.

<sup>77</sup> *Notice of April 2, 2015 Effective Date for Rules Implementing Sections 101, 103 and 105 of the STELA Reauthorization Act of 2014*, MB Docket No. 15-37, Public Notice, 30 FCC Rcd 2076 (2015).

<sup>78</sup> *Implementation of Section 103 of the STELA Reauthorization Act of 2014, Totality of the Circumstances Test*, MB Docket No. 15-216, Notice of Proposed Rulemaking, 30 FCC Rcd 10327 (2015) (*Totality of the Circumstances NPRM*).

<sup>79</sup> *Id.* at 10333-36, paras. 7-11.

whether certain practices should be deemed evidence of bad faith under the totality of the circumstances test or a *per se* breach of the duty to negotiate in good faith. The comment cycle closed in January 2016.<sup>80</sup>

34. *Satellite Market Modifications.* On September 2, 2015, the Commission adopted satellite market modification rules to implement Section 102 of the STELAR, which gave the Commission authority to modify a commercial television broadcast station's local television market (which is initially defined by the DMA in which it is located) for purposes of satellite carriage rights.<sup>81</sup> The Commission previously had authority to modify markets only in the cable carriage context.<sup>82</sup> Section 102 of the STELAR sought to promote consumer access to "in-state" and other relevant local television programming.<sup>83</sup> In certain multistate DMAs, satellite subscribers located in out-of-state counties within a DMA may be unable to receive their home state (in-state) broadcast television stations and therefore may lack access to in-state news, sports, public affairs, political information, and emergency information.<sup>84</sup>

35. The STELAR helps to address this so-called "orphan county" problem by allowing the Commission to modify, at the request of a television station, satellite operator, or county government, a particular commercial television broadcast station's local television market to add or delete communities to better reflect market realities.<sup>85</sup> The new satellite market modification rules are largely modeled on the existing rules for cable operators, but also reflect the STELAR provisions that apply uniquely to satellite carriers, such as affording carriers with an exemption for situations in which the resulting carriage of a station would be "not technically and economically feasible" by means of a carrier's existing satellites.<sup>86</sup> The satellite market modification rules became effective on February 25, 2016.<sup>87</sup> In addition, Section 109 of the STELAR requires the Commission to prepare a report not later than 18 months after the date of the statute's enactment on consumer access to out-of-market stations, technologically and economically feasible alternatives to the use of DMAs to define markets that would provide consumers with more

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<sup>80</sup> *Comment Deadlines Set for Notice of Proposed Rulemaking on Implementation of Section 103 of the STELA Reauthorization Act of 2014 Totality of the Circumstances Test*, MB Docket No. 15-216, FCC Rcd 10776 (2015); *Implementation of Section 103 of the STELA Reauthorization Act of 2014*, MB Docket No. 15-216, Order, 30 FCC Rcd 11685 (MB 2015) (extending Reply Comment deadline).

<sup>81</sup> *Amendment to the Commission's Rules Concerning Market Modification; Implementation of Section 102 of the STELA Reauthorization Act of 2014*, MB Docket No. 15-71, Report and Order, 30 FCC Rcd 10406 (2015) (*Market Modification Order*). See also STELAR § 102, Pub. L. No. 113-200, 128 Stat. 2059, 2060-62 (2014) (codified at 47 U.S.C. § 338(l)); 47 CFR § 76.59. In addition to authorizing satellite market modifications, Section 102 of the STELAR makes certain conforming amendments to the cable market modification provision at 47 U.S.C. § 534(h)(1)(C).

<sup>82</sup> See 47 U.S.C. § 534(h)(1)(C). Market modification has been authorized in the cable context since 1992.

<sup>83</sup> *Market Modification Order*, 30 FCC Rcd at 10407, para. 2.

<sup>84</sup> *Id.* at 10407, para. 1.

<sup>85</sup> *Id.* at 10408, para. 3 & n.5.

<sup>86</sup> See 47 U.S.C. § 338(l)(3); 47 CFR § 76.59(e); *Market Modification Order*, 30 FCC Rcd at 10415, 10429-30, paras. 11, 30 (concluding that it is *per se* not technically and economically feasible for a satellite carrier to provide a station to a new community that is outside of the relevant spot beam on which that station is currently carried). The Commission defines a "satellite community" as a county for purposes of market modification and retains the existing definition of a "cable community." *Id.* at 10443, para. 54.

<sup>87</sup> *Notice of Effective Date of STELAR Market Modification Rules Requiring OMB Approval; Media Bureau Now Accepting Satellite Market Modification Petitions*; MB Docket No. 15-71, Public Notice, DA 16-203 (MB Feb. 25, 2016), 2016 WL 759848.

programming options, and considerations for fostering increased localism.<sup>88</sup>

36. *Public Inspection Files.* On January 28, 2016, the Commission adopted a Report and Order expanding the requirement that public inspection files be posted to the FCC's online database to cable operators, DBS providers, and other media entities.<sup>89</sup> Television broadcasters completed their transition to the online file in 2014. Consistent with the approach the Commission took with respect to television broadcasters, the *Online File R&O* requires entities to upload only public file documents that are not already on file with the Commission or maintained by the Commission on its own website.<sup>90</sup> The Order also exempts existing political file material from the online file requirement and requires that political file documents be uploaded only on a going-forward basis.<sup>91</sup> With respect to cable systems, the *Online File R&O* exempts systems with fewer than 1,000 subscribers from all online public file requirements given that they are exempt from most public file requirements, including the political file.<sup>92</sup> For cable systems with between 1,000 and 5,000 subscribers, the Order also delays for two years, until March 1, 2018, the requirement that these systems commence uploading new political file material to the online public file.<sup>93</sup> The Commission noted that the online file will improve public access to public inspection files and, ultimately, reduce the burden associated with maintaining these files.<sup>94</sup>

#### b. Market Conditions Affecting Competition

37. A number of market conditions affect MVPD decisions regarding business models and competitive strategies. Commenters in this proceeding and analysts have identified volume discounts and marketplace entry as particularly relevant to MVPD competition. These subjects are described more fully below.

38. *Volume Discounts.* Larger MVPDs may have negotiating clout that can be used to obtain some inputs (e.g., programming and equipment) at lower prices, relative to the prices paid by smaller MVPDs. There is debate, however, regarding the magnitude of the cost advantages of large MVPDs versus small MVPDs. WTA-Advocates for Rural Broadband maintains that "small rural MVPDs appear to pay the highest per-customer satellite programming costs in the nation."<sup>95</sup> NTCA states that it "has anecdotal evidence that larger MVPDs have access to content at a significant cost savings, creating an unfair competitive advantage ..."<sup>96</sup> The National Cable Television Cooperative (NCTC) asserts that its members are experiencing discriminatory pricing.<sup>97</sup> Others suggest that while larger MVPDs can

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<sup>88</sup> STELA Reauthorization Act of 2014, Pub. L. No. 113-200 (STELAR), § 109, 128 Stat. 2059, 2065 (2014); see also *Media Bureau Seeks Comment for Report Required by the Stela Reauthorization Act Of 2014*, MB Docket No. 15-43, Public Notice, 30 FCC Rcd 1904 (MB 2015).

<sup>89</sup> *Expansion of Online Public File Obligations to Cable and Satellite TV Operators and Broadcast and Satellite Radio Licensees*, MB Docket No. 14-127, Report and Order, FCC 16-4 (rel. Jan. 29, 2016).

<sup>90</sup> *Id.* at para. 17.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.* at para. 50.

<sup>93</sup> *Id.* at para. 53.

<sup>94</sup> *Id.* at para. 15.

<sup>95</sup> WTA-Advocates for Rural Broadband Comments at 6. See also NTCA-The Rural Broadband Association Comments at 2.

<sup>96</sup> NTCA-The Rural Broadband Association Comments at 11.

<sup>97</sup> Letter from Matthew M. Polka, President and CEO, ACA, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 15-158, at 3 (filed Dec. 15, 2015) (ACA Ex Parte). See also Letter from Small Operators (228 members of NCTC), to Tom Wheeler, Chairman, FCC, at 1 (Dec. 17, 2015) (on file in MB Docket No. 15-158). As an example, NCTC  
(continued....)

negotiate for slightly better terms when obtaining programming, the price differences are not large, and that all MVPDs pay about the same price for core video programming.<sup>98</sup>

39. *Entry, Transactions, and Exit.* Facilities-based entry that would increase the number of MVPDs available to households requires building new video delivery systems. Such entry would increase competition in the marketplace for the delivery of video programming. However, competition can also be enhanced when existing MVPDs upgrade their video delivery systems, either as a stand-alone decision, or as a result of an acquisition or merger. In contrast, competition in the marketplace for the delivery of video programming may be reduced when MVPDs merge or when an MVPD shuts down a video delivery system. Trends over the relevant period include the expansion of telephone company MVPDs and Google Fiber, mergers among large MVPDs, and a decline in the total number of cable systems.

40. During 2014, the expanding video footprint of telephone MVPDs increased the number of MVPDs available to some households. At the end of 2014, telephone MVPDs offered video services to over 51 million households, an increase of five percent.<sup>99</sup> According to SNL Kagan, AT&T, CenturyLink, and Windstream are committed to further expansion.<sup>100</sup> Google Fiber is also expanding its video footprint. According to Bernstein Research, Google Fiber passes about 427,000 homes, and 96,000 businesses locations.<sup>101</sup> Google Fiber now offers 1,000 Mbps Internet service and 150 plus channel video service to neighborhoods in Austin, Texas, Kansas City, Kansas, Kansas City, Missouri, and Provo, Utah.<sup>102</sup> The price for Internet and video is \$130 per month.<sup>103</sup> Internet alone is \$70 per month.<sup>104</sup> Google Fiber also offers free Internet (5 Mbps downstream and 1 Mbps upstream) but customers must pay a \$300 construction fee to receive the service.<sup>105</sup> Google Fiber is currently constructing facilities in Atlanta, Charlotte, Nashville, Raleigh-Durham, and San Antonio and may expand to Irvine, Louisville, Portland, Phoenix, San Diego, and San Jose.<sup>106</sup> Google Fiber is using existing fiber infrastructure in the Atlanta area to deliver service to a select number of apartment buildings in the city's suburbs.<sup>107</sup> In Atlanta, Google Fiber is marketing a 100 Mbps Internet service for \$50 per month.<sup>108</sup>

41. The acquisition of an existing video delivery system by an MVPD with a non-overlapping footprint, while not changing the number of MVPDs available to households, can increase

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stated that AMC Networks is proposing that NCTC members pay twice the rate AMC Networks is charging other cable operators for the same service. *Id.* In January 2016, NCTC and AMC reached a multi-year carriage agreement, the terms of which were not disclosed. See Mike Farrell, *AMC, NCTC Reach Agreement*, Multichannel News (Jan. 4, 2016), <http://www.multichannel.com/news/networks/amc-nctc-reach-agreement/396228>.

<sup>98</sup> Matt Daneman, *OTT Driving Pay-TV Consolidation Wave, Experts Say*, COMMUNICATIONS DAILY, Friday, June 5, 2015.

<sup>99</sup> See *supra*, Table III.A.1.

<sup>100</sup> *Cable TV Investor*, June 19, 2015, at 4-7.

<sup>101</sup> Jeff Baumgartner, *Dismissive' of Google Fiber*, MULTICHANNEL NEWS, Oct. 7, 2015.

<sup>102</sup> Google Fiber, <https://fiber.google.com/about/> (last visited April 14, 2016).

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> *Id.*

<sup>106</sup> *Id.*

<sup>107</sup> Jeff Baumgartner, *Google Fiber Plugs into Existing Networks in Atlanta*, MULTICHANNEL NEWS, Feb. 9, 2016.

<sup>108</sup> *Id.*

competition in the marketplace for the delivery of video services if the acquiring MVPD makes system upgrades and/or offers improved services. For example, Shentel acquired several cable systems in Virginia, West Virginia, and western Maryland and, as of December 31, 2014, Shentel had upgraded all of these systems.<sup>109</sup> Mergers between MVPDs with overlapping footprints have the potential to decrease the number of rival MVPDs.

42. In 2014 and 2015, the Commission conducted an analysis of the proposed, and subsequently abandoned, transaction between Comcast and Time Warner Cable.<sup>110</sup> In addition, the Commission approved the merger of AT&T and DIRECTV in 2015.<sup>111</sup> While the Commission recognized that the merger would result in the loss of a video provider within the AT&T U-verse video footprint it found that the merger would increase competition for bundles of video and broadband.<sup>112</sup> The Commission also expected that the transaction would spur AT&T's investment in high-speed broadband networks.<sup>113</sup>

43. Over the past few years, the total number of cable systems has been declining.<sup>114</sup> Currently, there are 4,562 cable systems in the country.<sup>115</sup> This is a decline from the 4,833 cable systems reported in the 16<sup>th</sup> Report.<sup>116</sup> A reduction in the number of cable systems often has no impact on the number of households receiving cable service where, for example, one cable system is consolidated with another system. Sometimes, however, cable systems are shut down, which results in some households losing service from the MVPD.

44. ACA reports that 91 cable systems, operated by 47 separate operators, ceased providing video services in 2014.<sup>117</sup> According to ACA, the 91 cable systems served 5,307 subscribers in 32 states. ACA reports that 133 systems serving 8,060 subscribers shut down in 2013 and 129 systems serving 4,050 subscribers shut down in 2012.<sup>118</sup> Since 2008, ACA reports that 1,169 cable systems serving 55,302 subscribers have shut down.<sup>119</sup> We do not collect information on why cable systems shut down or

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<sup>109</sup> Shentel, *SEC Form 10-K for the Period Ending December 31, 2014*, at 5 (Shentel 2014 Form 10-K).

<sup>110</sup> See 47 U.S.C. §§ 214, 310(d); *Applications of Comcast Corp. and Time Warner Cable Inc. for Consent to Transfer Control of Licenses and Authorizations, Applications and Public Interest Statement* (filed Apr. 8, 2014) (Comcast-TWC Application). See also *Applications of Comcast Corp. and Time Warner Cable Inc., For Consent To Assign or Transfer Control of Licenses and Authorizations*, Order, 30 FCC Rcd 3911 (2015).

<sup>111</sup> See generally *AT&T and DIRECTV MO&O*.

<sup>112</sup> See *id.* at 9134, 9179, paras. 4, 127.

<sup>113</sup> *Id.* at 9134, para. 4. To ensure that this investment occurred the Commission imposed as a condition that AT&T in 4.5 years deploy FTTP to 12.5 million customer locations. See *id.* at 9134, para. 6.

<sup>114</sup> Depending upon the number of homes and the size of the geographic area served, cable operators use one or more cable systems to provide video service. Large cable MVPDs that serve millions of homes in multiple geographic areas operate many cable systems. These large cable MVPDs often cluster cable systems together using some of the same infrastructure to provide cable service to a larger geographic area (*e.g.*, metropolitan area). Small cable MVPDs that serve very few homes in one geographic area often operate only one cable system in that particular area, and may similarly operate other small cable systems in other geographic areas.

<sup>115</sup> The number of active, registered cable systems comes from the Commission's Cable Operations and Licensing System (COALS) database on Sep. 2, 2015.

<sup>116</sup> From COALS on March 25, 2014.

<sup>117</sup> ACA Comments at 3-4.

<sup>118</sup> *Id.*

<sup>119</sup> *Id.*

the characteristics of such systems. It may be that such systems have integrated with other systems or that the systems actually terminated service.

## 2. MVPD Business Models and Competitive Strategies

45. MVPDs may seek to differentiate themselves from one another as a means to gain a competitive advantage over competitors. Below we discuss ways in which MVPDs are seeking to differentiate themselves from one another, including pricing, discounts for new subscribers, prices for existing subscribers, raising prices for video packages, responses to increased programming costs, bundles, skinny bundles, TV Everywhere and OVD-like services, Wi-Fi hotspots, and digital technology. We also discuss the potential competition MVPDs face from OVDs and broadcasters.

46. *Pricing.* Pricing represents an important component of every MVPD's competitive strategy. To attract customers, MVPDs offer a variety of video packages at different prices. They offer packages of programming services that start with a basic tier of service and also offer higher tiers of service may include movie channels, sports tiers, and exclusive programming (e.g., NFL Sunday Ticket), as well as HD programming, niche programming, and foreign-language programming. Today, most large and mid-sized MVPDs offer one or more high-end pricing plans that include hundreds of channels, a complement of high definition (HD), digital video recorder (DVR), video-on-demand (VOD) services, and some mix of premium channels. In addition, these MVPDs offer one or more mid-priced video service plan that includes fewer channels and a smaller complement of video services.

47. In previous years, MVPDs offered, but were less likely to actively market, lower-priced video packages; however, MVPDs now increasingly market lower-priced video packages. For example, Verizon's Custom TV plan for \$54 per month is prominently displayed on its website.<sup>120</sup> And DIRECTV prominently displays five low-priced video packages on its website.<sup>121</sup> The marketing of lower-priced video packages appears to be a response to the growth of delivered video alternatives from OVDs and stagnating household income.<sup>122</sup>

48. Table III.A.3 provides examples of the video packages offered by some of the largest MVPDs. All of the prices shown are for new subscribers, not existing subscribers. The name of the video package is shown, along with the advertised price, and the number of channels. Because the specific networks that are included in each package are not identified and are likely to vary from one provider to another, and additional features (e.g., advanced video services, equipment, and movie channels) affecting the value of a video package are not known, the examples provide only a starting point for comparing video packages.

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<sup>120</sup> Verizon, <http://www.verizon.com/home/fiostv/> (last visited Oct. 7, 2015).

<sup>121</sup> DIRECTV, <https://www.directv.com/DTVAPP/pepod/configure.jsp?ACM=false&lpos=Header:3#package-section> (last visited April 14, 2016).

<sup>122</sup> See, e.g., *Cable TV Investor*, July 31, 2015, at 1-5 (where SNL Kagan notes that MVPDs are pressured by OVDs and financially vulnerable households).

**Table III.A.3  
Examples of MVPD Video Packages and Prices**

Provider	Packages					
<b>Comcast</b> <sup>123</sup>	Digital Starter \$49.99 140+ Channels	Digital Preferred \$59.99 220+ Channels	Digital Premier \$99.99 260+ Channels			
<b>Time Warner Cable</b> <sup>124</sup>	Starter TV \$19.99 20+ Channels	Standard TV \$39.99 70+ Channels	Preferred TV \$49.99 200+ Channels	Preferred TV \$64.99 200+ Channels	Preferred TV \$79.99 200+ Channels	
<b>Cox</b> <sup>125</sup>	Economy TV \$30.49 155+ Channels	Advanced TV \$61.99 220+ Channels	Advanced TV Preferred \$71.99 280+ Channels	Advanced TV Premier \$85.99 340+ Channels	Advanced TV Ultimate \$145.99 380+ Channels	
<b>DIRECTV</b> <sup>126</sup>	Select \$19.99 145+ Channels	Entertainment \$24.99 150+ Channels	Choice \$29.99 175+ Channels	Xtra \$34.99 220+ Channels	Ultimate \$39.99 240+ Channels	Premier \$89.99 315+ Channels
<b>DISH Network</b> <sup>127</sup>	Smart Pack \$19.99 55+ Channels	America's Top 120 \$29.99 190+ Channels	America's Top 120+ \$49.99 190+ Channels	America's Top 200 \$64.99 240+ Channels	America's Top 250 \$74.99 290+ Channels	
<b>AT&amp;T</b> <sup>128</sup>	U-basic Package \$19 20+ Channels	U-family Package \$65 200+ Channels	U200 Package \$80 360+ Channels	U300 Package \$95 470+ Channels	U450 Package \$127 550+ Channels	
<b>Verizon</b> <sup>129</sup>	Custom TV \$54.99 Two Channel Packs	Preferred HD \$74.99 235+ Channels	Extreme HD \$79.99 320+ Channels	Ultimate HD \$89.99 420+ Channels		

<sup>123</sup> Comcast, <http://www.xfinity.com/Corporate/Learn/DigitalCable/digitalcable.html> (last visited Sept. 11, 2015).

<sup>124</sup> Time Warner Cable, <https://www.timewarnercable.com/en/plans-packages/tv/digital-cable-tv-plans.html?iid=tv-lob:8:1:tvplans> (last visited Sept. 11, 2015).

<sup>125</sup> Cox Communications, <https://www.cox.com/residential/tv.html> (last visited Sept. 11, 2015).

<sup>126</sup> DIRECTV, <http://www.directv.com/DTVAPP/content/packages/overview?lpos=Header:1> (last visited Sept 11, 2015).

<sup>127</sup> DISH Network, <http://www.dish.com/introductory-savings-offer/> and <http://www.dish.com/compare-channels/> (last visited Sept 14, 2015).

<sup>128</sup> AT&T, <https://www.att.com/shop/tv/packages-tv/> and <https://www.att.com/shop/u-verse/build-your-own-bundle.html> (last visited Sept. 14, 2015).

<sup>129</sup> Verizon, <http://www.verizon.com/home/fiostv/> (last visited Sept. 14, 2015).

CenturyLink <sup>130</sup>	Prism Essential \$34.99 140+ Channels	Prism Complete \$39.99 190+ Channels	Prism Preferred \$49.99 290+ Channels	Prism Premium \$79.99 320+ Channels		
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49. *Discounts for New Subscribers.* Offering discounts to new subscribers is a common pricing strategy among MVPDs. All of the prices prominently displayed to consumers on MVPD websites and in mailings and television advertisements are for new subscribers. The discounts are typically for a limited time (e.g., six months, one year, or two years) and at the end of the introductory period prices rise to the “regular” price. In addition to pricing discounts, MVPDs often offer other enticements to win new subscribers. For example, DISH Network offers free installation, free premium channels for three months, and free Netflix or NFL RedZone for one year.<sup>131</sup> Verizon offers free premium channels for 12 months and a \$300 prepaid credit card.<sup>132</sup>

50. MVPDs may be willing to offer substantial savings to new subscribers for a short period of time because the potential revenue stream is substantial when the subscriber is retained over a long period of time. DISH Network explains that the company incurs significant upfront costs to acquire subscribers and strives to provide outstanding customer service to increase the likelihood that customers retain their DISH service for long periods of time.<sup>133</sup> In addition to attracting potential new subscribers with price discounts, some MVPDs have acquired subscribers by merging with other MVPDs. SNL Kagan data for 2014 show that entities seeking to buy MVPDs were willing to spend over \$5,800 per existing subscriber.<sup>134</sup>

51. *Prices for Existing Subscribers.* For existing subscribers, MVPDs display prices for service upgrades and special offers on their websites and in emails, mailings, and other marketing materials. However, pricing beyond the discount period and for downgraded or cancelled services are often harder to find or not available on MVPD websites, email, mailings, and other marketing materials. For these changes, MVPDs encourage existing subscribers to call the MVPD’s customer service representatives.

52. Requiring existing subscribers to contact the MVPD by phone is designed to give an MVPD the opportunity to retain subscribers through one-on-one negotiation.<sup>135</sup> Having invested significant resources in obtaining the customer, the MVPD recognizes that the profitability of the investment is directly related to the number of years the customer remains with the MVPD. In an effort to retain customers, MVPDs often make better offers to existing subscribers over the phone than are available on their websites, emails, mailings and other marketing materials.<sup>136</sup>

<sup>130</sup> CenturyLink, <http://www.centurylink.com/prismtv/#index.html> (last visited Sept. 14, 2015).

<sup>131</sup> DISH Network, <http://www.dish.com/35th-anniversary-special-offer/> (last visited Oct. 13, 2015).

<sup>132</sup> Verizon, <http://www.verizon.com/home/bundles/fios/> (last visited Oct. 13, 2015).

<sup>133</sup> DISH Network, *SEC Form 10-K for the Year Ended December 2014*, at 6 (DISH Network 2014 Form 10-K).

<sup>134</sup> SNL Kagan’s estimate is a total/weighted average of 14 announced transactions from 2014. *Cable TV Investor*, Jan. 30, 2015, at 12. These 14 transactions involved MVPDs offering bundles and do not include the AT&T and DIRECTV transaction. According to SNL Kagan, AT&T paid \$2,597 per DIRECTV U.S. subscriber. *Cable TV Investor*, May 27, 2015, at 3.

<sup>135</sup> See, e.g., Charles Passy, *The FoolProof Way to Lower Your Cable Bill*, MARKETWATCH, July 31, 2015, <http://www.marketwatch.com/story/the-foolproof-way-to-lower-your-cable-bill-2014-02-21>.

<sup>136</sup> See, e.g., Sonali Kohli, *The Complete Guide to Negotiating a Lower Cable Bill*, QUARTZ, July 18, 2014, <http://qz.com/235265/the-complete-guide-to-negotiating-a-lower-cable-bill/>; Simon Hill, *How to Haggle Your Way* (continued....)

53. *Raising Prices for Video Packages.* MVPDs have been raising prices for video packages for many years.<sup>137</sup> In the past, these price increases were accompanied by increased total subscribership to MVPD video services. In the past two years, however, price increases have been accompanied by *decreases* in total subscribership.<sup>138</sup> SNL Kagan argues that a combination of high prices for MVPD video packages and the growth of competitive video alternatives have resulted in a declining subscriber base for MVPD video.<sup>139</sup> According to SNL Kagan, “the historical pattern of 3 percent and 4 percent annual increases is unsustainable. MSOs likely have entered a vicious cycle in which rising prices, when compared to more affordable OTT alternatives, contribute to subscriber losses, which should have a moderating effect on headroom for fee increases.”<sup>140</sup>

54. SNL Kagan predicts that, going forward, MVPD price increases for video packages will be in direct response to rising programming costs and inflation and will be accompanied by continued subscriber losses.<sup>141</sup> According to SNL Kagan, “at this juncture in cable’s history, higher programming costs are becoming increasingly difficult to pass on to the consumer in an environment of compressed disposable income and proliferating, more affordable online video.”<sup>142</sup> MVPDs are cognizant of the predicament and have different strategies for dealing with higher programming costs as described below.

55. Some MVPDs have attempted to avoid increasing prices displayed in advertisements for video packages while at the same time adding various video-related fees to customers’ monthly billing statements.<sup>143</sup> Video-related fees that MVPDs have included on customer bills have been identified in a variety of ways – for instance labeling them as a broadcast fee or a sports fee. By labeling the fees in these ways, the MVPD seeks to suggest that the fee is affixed to the bill to defray retransmission consent fees charged by local broadcast stations or the cost of sports programming.<sup>144</sup> Adding a broadcast and a

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to a Lower Cable or Internet Bill, DIGITAL TRENDS, Oct. 14, 2014, <http://www.digitaltrends.com/home-theater/negotiate-better-deal-broadband-tv-service/>.

<sup>137</sup> See *Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992, Statistical Report on Average Rates for Basic Service, Cable Programming Service, and Equipment*, MM Docket No. 92-266, Report on Cable Industry Prices, 29 FCC Rcd 14895, 14919 (MB 2014) (2014 Cable Price Report).

<sup>138</sup> SNL Kagan data show total multichannel subscribers falling in 2013 and again in 2014. SNL Kagan, <https://www.snl.com/interactivex/MultichannelIndustryBenchmarks.aspx?startYear=2008&endYear=2014> (last visited Dec. 9, 2015).

<sup>139</sup> *Cable TV Investor*, July 31, 2014, at 1-3; *Cable TV Investor*, July 31, 2015, at 1-5.

<sup>140</sup> *Id.*

<sup>141</sup> *Id.*

<sup>142</sup> *Cable TV Investor*, Aug. 25, 2014, at 7.

<sup>143</sup> Broadcast and sports fees are being used by many large MVPDs including Comcast, Time Warner Cable, Verizon, and AT&T/DIRECTV.

<sup>144</sup> For example, Verizon states that the broadcast fee “helps cover a portion of the costs currently charged by local programming providers to Verizon for basic tier programming channels” and the regional sports fee “helps to cover the rising cost of delivering regional collegiate and professional sports programming to subscribers.” See Verizon, *Explanation of Taxes, Fees, Surcharges and Other Charges on Your Bill*, <https://www.verizon.com/support/consumer/account-and-billing/taxes-and-surcharges> (last visited April 14, 2016). As another example, Charter states the following regarding the broadcast fee: “As a direct result of local broadcast, or ‘network-affiliated,’ TV stations increasing the rates to Charter to distribute their signals to our customers, we will be passing those charges on as a Broadcast TV Surcharge, in the Taxes and Fees section of the billing statement. These local TV signals were historically made available to us at no cost, or low cost. However, in recent years the prices demanded by local broadcast TV stations have necessitated that we pass these costs on to

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sports fee to a video subscriber's monthly bill raises the total monthly bill without raising the advertised price for video packages. In contrast, however, some MVPDs have attempted to differentiate themselves by proactively rejecting the fee approach. For instance, DISH Network prominently advertises that there are "no local channels fee," and "no regional sports fee," in their video package prices.<sup>145</sup>

56. *Response to Increased Programming Costs.* According to SNL Kagan, programming costs rose 16.5 percent from 2012 to 2014.<sup>146</sup> MVPDs have used different competitive strategies to deal with increased programming costs. For example, Comcast indicates that it planned for higher programming costs and is confident that it can offset them through price increases in line with previous years.<sup>147</sup> In contrast, Cablevision states that there is no real way to continue passing increased programming costs on to consumers without risking subscriber losses.<sup>148</sup> DIRECTV similarly states that passing on increasing programming costs is not sustainable long-term, but in 2015, it implemented an above-average price increase for video packages, one of the highest in its history, while acknowledging that this could result in a modest decline in the subscriber base.<sup>149</sup>

57. Another MVPD competitive strategy related to programming costs involves purchasing an ownership stake in video programming. This can turn a programming expense into a potential source of revenue. Examples of this practice include Comcast's acquisition of NBC Universal and Comcast's and Time Warner Cable's respective ownership of regional sports networks, as well as AT&T's acquisition of DIRECTV's regional sports networks. Another strategy involves merging with another MVPD in the hopes of gaining additional negotiating leverage. SNL Kagan explains that "the steep upward trajectory of programming expenses of the last few years have culminated in a massive consolidation push" as MVPDs seek greater scale to augment their leverage with content providers.<sup>150</sup> An approach used primarily by smaller MVPDs involves participation in buying groups to obtain better prices for programming than they could achieve by themselves.<sup>151</sup>

58. *Bundles.* Due to the revenue flow from existing subscribers and the cost of winning new subscribers, MVPDs have a strong incentive to retain customers for as long as possible. To retain customers, SNL Kagan maintains that MVPDs strategically promote bundles of video, Internet, and voice services.<sup>152</sup> In addition to providing a better value than stand-alone services from multiple providers, SNL Kagan claims the bundle strategy has been highly successful in reducing customer losses.<sup>153</sup> Bundling may alter the cost-savings analysis a consumer faces when considering an alternative provider or dropping a service and, therefore, have a positive effect on service renewal rates.<sup>154</sup> Wireline MVPDs

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 customers." See Charter, *Understanding Your Bill – Taxes and Fees*,  
<http://www.charter.net/support/tv/understanding-your-bill-taxes-and-fees/> (last visited April 14, 2016).

<sup>145</sup> DISH Network, <http://www.dish.com/> (last visited April 14, 2016).

<sup>146</sup> *Cable TV Investor*, March 26, 2015, at 13-15.

<sup>147</sup> *Id.*, at 14.

<sup>148</sup> *Id.*

<sup>149</sup> *Id.*

<sup>150</sup> SNL Kagan, *Broadband Cable Financial Databook*, 2014 Edition, at 7.

<sup>151</sup> WTA-Advocates for Rural Broadband Comments at 6.

<sup>152</sup> *Cable TV Investor*, Sept. 23, 2014, at 4-5.

<sup>153</sup> *Id.*

<sup>154</sup> Jeffrey Prince and Shane Greenstein, *Does Service Bundling Reduce Churn?*, 23 J. of Economics & Management Strategy 839-875 (Winter 2014) (finding that bundling reduces subscriber churn); and Jeffrey Prince, *The Dynamic* (continued....)

have a competitive advantage in providing bundles because they operate two-way systems that enable them to deliver video, Internet, and voice services using their wireline networks. Conversely, DBS MVPDs may be at a competitive disadvantage when it comes to bundles, because they operate one-way systems and cannot provide Internet and voice services, both of which require two-way systems. To provide bundles, DBS MVPDs have traditionally entered into cooperative arrangements with telephone companies in certain markets to provide “synthetic” bundles. These bundles, however, require the use of two systems (*i.e.*, a DBS system and a wireline network), which may result in higher resource costs, relative to wireline MVPDs using one system (*i.e.*, their wireline network).<sup>155</sup>

59. *Skinny Video Packages and Skinny Bundles.* In response to competition from OVDs, stagnant household incomes, and higher programming costs, MVPDs have begun offering “skinny” video packages, which include a limited selection of channels with add-on options revolving around specific subscriber interests such as sports, children’s entertainment, or movies.<sup>156</sup> The number and packaging of channels in the trimmed-down video packages typically differs from the traditional lower-cost basic-cable and family-friendly tier video packages long offered by most MVPDs.<sup>157</sup> Today’s skinny video packages include Verizon’s Custom TV Plan, which includes nearly 50 channels plus two channel packs for \$59.99 per month, and the ability to add additional channel packs for \$10 each.<sup>158</sup> Charter’s Spectrum TV Stream is another example of a skinny video package, which includes the four major broadcast channels and a free Roku 3 player for \$13 per month, with the option of adding another 16 channels for \$7 per month.<sup>159</sup> When skinny video packages are combined with Internet service, the combination is referred to as a “skinny bundle.” Some MVPDs offer very skinny bundles by combining Internet service with a small selection of local and cable channels or a premium channel such as HBO or Showtime, added as an enticement. According to SNL Kagan, these trimmed-down, double-play packages are offered only by a small number of MVPDs.<sup>160</sup> For example, Comcast offers Internet Pro Plus, which combines 75 Mbps with 45 channels and HBO or Showtime for an introductory price of \$54.99 per month.<sup>161</sup> Time Warner Cable offers Starter TV Extreme Internet, which combines 50 Mbps with 20 channels and HBO and

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*Effects of Triple Play Bundling in Telecommunications*, Time Warner Cable, Research Program on Digital Communications (Winter 2012) (arguing that firms bundle video, Internet, and voice services to reduce subscriber churn).

<sup>155</sup> Although AT&T and DIRECTV are now under common ownership, DIRECTV customers will still require the use of two systems for bundled services. However, by being under common ownership many of the transaction costs are reduced—a single truck roll, one customer service center to respond to questions about both services, and a single bill. See *AT&T and DIRECTV MO&O*, 30 FCC Rcd at 9243-44, paras. 292-93. The applicants asserted that the merger would allow the single company to offer consumers more convenient and lower-priced bundles of video and broadband. See, *e.g.*, *id.* at 9175-76, paras. 111-115.

<sup>156</sup> *Cable TV Investor*, July 31, 2015, at 1. See also, Joe Flint, *Why Does the Cable-TV Bundle Exist Anyway?* THE WALL STREET JOURNAL, June 8, 2015, <http://www.wsj.com/articles/why-does-the-cable-tv-bundle-exist-anyway-1433807825>.

<sup>157</sup> See Comcast, <http://www.xfinity.com/familyprogramming> (last visited April 14, 2016).

<sup>158</sup> Verizon, <http://www.verizon.com/home/fiostv/> (last visited Oct. 20, 2015). See also Verizon Comments at 4. ESPN filed a lawsuit against Verizon alleging that the Custom TV package breaches the contract covering how ESPN is to be distributed. Joe Flint, *ESPN Sues Verizon Over New FiOS TV Packages*, THE WALL STREET JOURNAL, APRIL 27, 2015.

<sup>159</sup> Karl Bode, *Charter Quietly Offered Skinny Bundle Aimed at Cord Cutters*, DSLREPORTS, Oct. 22, 2015, <http://www.dslreports.com/shownews/Charter-Quietly-Offers-Skinny-Bundle-Aimed-at-Cord-Cutters-135432>.

<sup>160</sup> *Cable TV Investor*, Sept. 28, 2015, at 16-17.

<sup>161</sup> *Id.*

Showtime for an introductory price of \$49.99 per month.<sup>162</sup> Cox offers TV FlexWatch, which combines 15 Mbps with 10 channels for an introductory price of \$54.99 per month.<sup>163</sup>

60. SNL Kagan performed a sensitivity analysis that looked at both the cost savings and subscriber losses associated with removing channels from video packages and found that it remains profitable for MVPDs to reduce programming costs even with large subscriber losses. The sensitivity analysis suggests that going forward MVPDs may find it profitable to respond to higher programming costs by offering video packages with fewer channels.<sup>164</sup> In contrast, other analysts assert that skinny bundles face long odds of success, questioning whether offerings with limited channel lineups will find broad appeal.<sup>165</sup> According to one analyst, while all the technology pieces now exist to offer skinny bundles, standalone OTT services, and a la carte, “the key challenges remain the structure and economics of the TV networks and their owners.”<sup>166</sup> The analyst explained that “the business models and competitive structures that have been built up over the years are now the main barriers to move to tailored consumer offerings.”<sup>167</sup>

61. *TV Everywhere*. Although MVPDs have traditionally considered other MVPDs their foremost rivals, MVPDs increasingly see themselves competing with OVDs for viewers, subscription revenue, and advertising revenue.<sup>168</sup> Some MVPD subscribers, referred to colloquially as “cord cutters,” have cancelled their MVPD video subscriptions.<sup>169</sup> Other consumers, referred to as “cord nevers,” have never subscribed to an MVPD video service. Other consumers, known as “cord shavers,” retain their MVPD subscriptions but have cut back on their MVPD video services (*e.g.*, by eliminating premium movie channels or downgrading to a lower tier of service).

62. Some MVPDs have responded to the perceived competition from OVDs by creating and deploying online video services similar to those offered by OVDs.<sup>170</sup> Many MVPDs offer a bundle of services, referred to as “TV Everywhere,” which allow MVPD subscribers to access both linear and VOD programming on a variety of in-home and mobile Internet-connected devices authorized by the MVPD. Access to TV Everywhere video programming is restricted through the use of an authentication process that requires subscribers to select their MVPD service provider and then provide their user ID and password. Although initiated as a response to OVDs, TV Everywhere has also become a strategy for

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<sup>162</sup> *Id.*

<sup>163</sup> *Id.*

<sup>164</sup> *Cable TV Investor*, Dec. 26, 2014, at 6-7.

<sup>165</sup> Will Richmond, *Report: TV Viewership Patterns and Economic Realities Indicate Difficult Path for “Skinny” Bundles*, VIDEO NUZE, Mar. 25, 2015, <http://www.videonuze.com/content/search?q=Report%3A+TV+Viewership+Patterns+and+Economic+Realities+Indicate+Difficult+Path>.

<sup>166</sup> *Id.*

<sup>167</sup> *Id.*

<sup>168</sup> See NCTA Comments at 9-15; Comcast Reply Comments at 3-8. See also *infra*, Section III.A.2.a (discussing competition with OVDs and broadcasters in terms of substitutes, supplements, and complements).

<sup>169</sup> Some cord cutters may supplement their OVD video by using a television antenna to obtain over-the-air video from broadcast stations.

<sup>170</sup> SNL Kagan says that “Since its inception, TV Everywhere has been touted as a solution to fend off the rise of OTT services.” *Cable TV Investor*, Dec. 27, 2013, at 15. SNL Kagan says that “[t]he large cable operators have strengthened their TV Everywhere catalogues to stem the diversion of eyeballs to video services such as Netflix and Hulu.” SNL Kagan, *Broadband Cable Financial Databook*, 2013 Edition, at 4.

reducing MVPD churn.<sup>171</sup> Rival MVPDs use their TV Everywhere offerings to differentiate their products, in order to attract and retain MVPD subscribers.<sup>172</sup>

63. In 2014, TV Everywhere initiatives focused on (1) increasing the amount of TV Everywhere VOD and linear programming for both in-home and out-of-home viewing, (2) expanding the number of devices for viewing TV Everywhere video programming, and (3) increasing the amount of exclusive programming (e.g., programming not available on Netflix or Hulu Plus).<sup>173</sup> Specifically, in a study that looked at movies available from six of the largest MVPDs, SNL Kagan found that over 80 percent of the movies were not available from Netflix or Hulu Plus.<sup>174</sup> The same study also found that over 92 percent of the television shows available from six of the largest MVPDs were not available on Netflix and over 41 percent were not available from Hulu Plus.<sup>175</sup> In addition, MVPDs are increasing the amount of linear, as opposed to VOD, programming offered through TV Everywhere. By mid-2015, Comcast offered linear programming from 86 networks for both in-home and out-of-home viewing, DIRECTV offered linear programming from 134 channels for in-home and 94 channels for out-of-home viewing, and Verizon FiOS offered linear programming from 180 channels for in-home viewing and 95 channels for out-of-home viewing.<sup>176</sup>

64. Although TV Everywhere usage is increasing, it is well behind the largest OVDs (i.e., Netflix, Hulu, and Amazon Prime Video) in terms of user numbers. Comcast reported that 10 million subscribers used TV Everywhere and viewed an average of 3.2 hours during the month of March 2014, a month that draws higher than normal TV Everywhere usage because of the NCAA basketball tournament. Over a similar timeframe, Netflix reported that 62.3 million subscribers viewed an average of nearly 55 hours per month.<sup>177</sup> Live sports appears to have been a major factor in encouraging use of TV Everywhere.<sup>178</sup> Yet, a recent report showed that the number of people actually using TV Everywhere has not grown over the past year and attributed the lack of growth to difficult sign-in procedures.<sup>179</sup> The same report, however, found that among those using TV Everywhere, viewing time increased 63 percent.<sup>180</sup>

65. *Additional Video Services for Consumers who do not Subscribe to an MVPD.* In addition to TV Everywhere, which requires a subscription to MVPD service, some MVPDs have begun offering additional video services that do not require subscription to MVPD service. For example, on February 9, 2015, DISH Network launched Sling TV, which offers linear streaming and VOD programming. At launch, the core package consisted of 14 plus channels offered for a \$20 monthly subscription, with

<sup>171</sup> SNL Kagan, *Broadband Cable Financial Databook*, 2014 Edition, at 5.

<sup>172</sup> Comcast, <http://www.xfinity.com/compare/comcast-xfinity-vs-verizon-fios.html> (last visited April 14, 2016).

<sup>173</sup> *Cable TV Investor*, Feb. 23, 2015, at 6-10; *Cable TV Investor*, July 31, 2015, at 11-17; *Cable TV Investor*, Aug. 27, 2015, at 10-11.

<sup>174</sup> *Cable TV Investor*, Feb. 23, 2015, at 6.

<sup>175</sup> *Id.*

<sup>176</sup> *Cable TV Investor*, July 31, 2015, at 11-17.

<sup>177</sup> *Cable TV Investor*, Aug. 27, 2015, at 10-11.

<sup>178</sup> Brian Dutt, *Live Sports Viewing Creates Entry Point for TV Everywhere Adoption*, VIDEONUZE, Mar. 9, 2015, <http://www.videonuze.com/content/search?q=Live+Sports+Viewing+Creates+Entry+Point+for+TV+Everywhere+Adoption>.

<sup>179</sup> Will Richmond, *Adobe: TV Everywhere Adoption Stagnant Over Past 4 Quarters*, VIDEONUZE, Sept. 8, 2015, <http://www.videonuze.com/content/search?q=Adobe%3A+TV+Everywhere+Adoption+Stagnant+Over+Past+4+Quarters>.

<sup>180</sup> *Id.*

additional tiers of programming for an additional monthly fee per tier.<sup>181</sup> DISH Network markets its service primarily to consumers who do not subscribe to traditional DBS and wireline pay-TV services.<sup>182</sup> On April 23, 2015, Cablevision began marketing an Internet service with a free digital antenna for receiving over-the-air broadcast stations.<sup>183</sup> Cablevision announced that the service is directed at “cord cutters and cord nevers, who prefer to access video through the Internet.”<sup>184</sup> The service costs \$44.90 per month for the first year and includes 50 Mbps, a digital antenna, the option to add the digital streaming service of HBO NOW, and access to 1.1 million Wi-Fi hotspots, but does not include channels of linear or VOD video programming.<sup>185</sup> Verizon recently launched go90, a free ad-supported service, initially targeted for use on smartphones and tablets. The service offers 8,000 titles including episodes from popular television shows and 35 original exclusive series and has plans for live college football and basketball games.<sup>186</sup> Later in 2016, AT&T plans to offer the ability to access and stream DIRECTV video services over a wired or wireless Internet connection.<sup>187</sup>

66. *Wi-Fi Hotspots.* MVPDs continue to build out Wi-Fi Networks that enable subscribers to use Internet services on secure networks outside their homes. According to SNL Kagan, the hotspots represent an effort to increase the value of both the MVPDs’ Internet service and video service.<sup>188</sup> These hotspots enable subscribers to access TV Everywhere content and OVD content on mobile devices outside their home without charge.<sup>189</sup> Non-subscribers can access the hotspots for a fee.<sup>190</sup> When marketing the Wi-Fi hotspots, some MVPDs note the potential savings on mobile wireless bills from reduced roaming and usage minutes.<sup>191</sup> A consortium, called Cable Wi-Fi, comprised of Comcast, Time Warner Cable, Cablevision, Cox, and Bright House, allows a subscriber of any of these cable MVPDs to access the hotspots of the other consortium members.<sup>192</sup> The consortium offered access to more than 300,000 hotspots at the end of 2014 and currently offers access to more than 400,000 hotspots.<sup>193</sup>

67. *Digital Technology.* Cable and telephone company MVPDs continue to upgrade their systems by transitioning their analog channels to digital, which frees up bandwidth for additional services

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<sup>181</sup> Current Sling TV offerings are found at <https://www.sling.com/package> (last visited April 14, 2016).

<sup>182</sup> DISH Network 2014 Form 10-K at 57.

<sup>183</sup> Press Release, Cablevision, Cablevision to Target ‘Cord Cutters’ with Product Offers for a New Generation of Consumers (April 23, 2015).

<sup>184</sup> *Id.*

<sup>185</sup> *Id.* Current Cablevision “Cord-cutter Offers” are found at <https://www.optimum.com/content/optimum/en/home/offers.html> (last visited April 14, 2016).

<sup>186</sup> Mike Snider, *Verizon launches go90 mobile video service*, USA TODAY, Oct. 1, 2015, <http://www.usatoday.com/story/tech/2015/10/01/verizon-launches-go90-mobile-video-service/73138654/>.

<sup>187</sup> Press Release, AT&T, AT&T to Launch Three New Ways to Access & Stream DIRECTV Video Content Later This Year (March 1, 2016), [http://about.att.com/story/three\\_new\\_ways\\_to\\_access\\_and\\_stream\\_directv\\_video\\_content.html](http://about.att.com/story/three_new_ways_to_access_and_stream_directv_video_content.html).

<sup>188</sup> *Cable TV Investor*, Jan. 29, 2014, at 12-16.

<sup>189</sup> *Id.* at 14.

<sup>190</sup> *Id.*

<sup>191</sup> *Id.* at 13.

<sup>192</sup> “Cable WiFi” is the wireless network name created as an extension of the Wi-Fi services offered by Internet service providers. Cable WiFi, <http://www.cablewifi.com> (last visited April 14, 2016).

<sup>193</sup> *Id.*; *Cable TV Investor*, Feb. 23, 2015, at 11.

(e.g., more digital channels, more HD channels, more VOD programming, and faster Internet speeds). One analog video program requires an entire 6 megahertz channel. By converting analog signals to digital video signals, a 6 megahertz channel can carry 10 to 12 standard definition programs or two or three HD channels.<sup>194</sup> Freeing up 6 megahertz also translates into bandwidth for approximately 38 Mbps of data capacity.<sup>195</sup> The transition from analog to digital requires deployment of additional set-top boxes and digital terminal adapters.<sup>196</sup> SNL Kagan reports that at the end of 2014, 69 percent of the combined footprints of the top eight cable MVPDs had been converted to all-digital.<sup>197</sup> There were, however, significant differences between cable MVPDs. Comcast and Cablevision completed their all-digital conversions and Charter was nearing completion.<sup>198</sup> In contrast, Time Warner Cable was 27 percent all-digital and Cox was seven percent all-digital.<sup>199</sup>

68. *Competition with OVDs and Broadcasters: Substitutes, Supplements, and Complements.* Although any direct comparison of similar video packages between rival MVPDs always contains differences in programming, equipment, features, and pricing, the marketing activities of cable, DBS, and telephone MVPDs suggest that they view each other's video services as near complete substitutes (*i.e.*, good alternatives for all or most of the video services offered by rival MVPDs).<sup>200</sup> The view of complete substitution is supported by the observation that households that subscribe to MVPD services typically subscribe to only one MVPD. Stated differently, competition between rival MVPDs may be characterized as "all-or-nothing" – an MVPD either wins the household or loses out to a rival MVPD.

69. As noted above, MVPDs may face increasing competition from OVDs.<sup>201</sup> The interplay between MVPDs and OVDs is wide-ranging and provides numerous benefits to consumers. For example, in addition to being able to switch MVPD providers, MVPD subscribers can (1) cancel MVPD service entirely and substitute content from OVDs; (2) cancel their subscriptions to premium movie channels and substitute movies from OVDs; (3) supplement their MVPD programming by adding OVD programming, that may not be available from the MVPD; or (4) complement (*i.e.*, combine or catch up on) the new season of a television program available on their MVPD by watching multiple episodes in one sitting<sup>202</sup> –

<sup>194</sup> Roxanne Romero-Agredano, *A Progress Report on the All-Digital Conversion*, June 12, 2015, <http://www.twcableuntangled.com/2015/06/a-progress-report-on-the-all-digital-conversion/>.

<sup>195</sup> *Cable TV Investor*, Jan 30, 2015, at 15.

<sup>196</sup> Subscribers with analog televisions use a digital terminal adapter to convert digital signals to analog signals.

<sup>197</sup> *Cable TV Investor*, Jan 30, 2015, at 14-15.

<sup>198</sup> *Id.*

<sup>199</sup> *Id.*

<sup>200</sup> See e.g., Comcast, <http://www.xfinity.com/compare/comcast-xfinity-vs-verizon-fios.html> (comparing Comcast with Verizon FiOS and links to compare Comcast with DIRECTV, Dish Network, AT&T U-verse, and CenturyLink Prism) (last visited April 14, 2016); DIRECTV, <http://www.directv.com/DTVAPP/content/directv/directv-vs-comcast-xfinity> (with links to compare DIRECTV with Comcast and DISH Network) (last visited April 14, 2016).

<sup>201</sup> See *supra*, paras. 61-65 (discussing TV Everywhere, as well as video services MVPDs provide to consumers who do not subscribe to MVPD video service). Moreover, in the context of a recent transaction involving MVPDs, the Commission found that OVDs were potential market entrants in the MVPD market as defined in that transaction. See *AT&T and DIRECTV MO&O*, 30 FCC Red at 9160, para. 68. In the transaction involving AT&T and DIRECTV, the Commission explained that "[t]he number and types of OVDs have grown significantly over the last few years and include programmers, content producers and owners, affiliates of online services, retailers, manufacturers, and MVPDs. The types of services that OVDs offer vary widely and include, but are not limited to, linear programming, on-demand programming, and combinations of original programming and full length movies and television programs." See *id.* at 9156, para. 58.

<sup>202</sup> See NCTA Comments at 13; Netflix Comments at 2-3.

a phenomenon known as “binge viewing.” The consideration of substitutes, supplements, and complements is important to the analysis of competition in the market for the delivery of video programming because all distributors seek to reach viewers, advertising dollars, and often subscription revenue.<sup>203</sup>

70. Some MVPD subscribers also have televisions that are used to receive over-the-air broadcast services. Some households using both MVPD and over-the-air broadcast services may have the potential to receive out-of-market broadcast stations that may not be carried by their MVPDs.<sup>204</sup> For these households, over-the-air broadcast services may be viewed as a supplement to the programming provided by their MVPD.<sup>205</sup>

71. Some non-MVPD households rely exclusively on over-the-air broadcast services or on OVD services or some combination of the two. Some of these households may assign less value to some of the programming and services offered by MVPDs. For example, some households may have a low demand for sports programming.<sup>206</sup> Other households, however, may seek to use a combination of OVDs and broadcast services to replicate the programming packages and products of an MVPD. This was impossible in years past, but it is becoming less difficult.<sup>207</sup>

### 3. MVPD Operating and Financial Statistics

#### a. Video Programming Pricing

72. Section 623(k) of the Cable Act<sup>208</sup> requires the Commission to publish annually a statistical report on the average rates that cable operators charge for “basic cable service, other cable programming,” and cable equipment.<sup>209</sup> We use data from the Commission’s most recent report on cable industry prices to show average prices for basic service, expanded basic service, the next most popular service, and the average price per channel for expanded basic service for the years 2013 and 2014 (see Table III.A.4).<sup>210</sup> The data show that average prices increased over the period 2013 to 2014.

<sup>203</sup> Our Report, which looks at existing rivalry, differs significantly from an antitrust analysis, which defines product and geographic markets to evaluate anti-competitive effects that may result from a merger. *See U.S. Dep’t of Justice & Fed. Trade Comm’n, Horizontal Merger Guidelines*, § 1 (2010), available at <http://www.ftc.gov/os/2010/08/100819hmg.pdf>.

<sup>204</sup> For example, a household located midway between Washington, D.C. and Baltimore may be able to receive broadcast channels over-the-air from both television markets.

<sup>205</sup> Nothing in this Report is intended to contradict prior findings or to prejudge future determinations in specific proceedings in which we are presented with a full record.

<sup>206</sup> Oriana Schwindt, *What Cord-Cutters Really Want: ABC, CBS, and HBO. ESPN? Not So Much*, INTERNATIONAL BUSINESS TIMES, (Dec. 2, 2015), <http://www.ibtimes.com/what-cord-cutters-really-want-abc-cbs-hbo-espn-not-so-much-2208076>.

<sup>207</sup> NESN Comments at 4-5 (noting that “online video distribution, as a technology, is currently a full substitute for broadcast, cable, and satellite technology”). *See also* Justin Pot, *Considering Canceling Cable? The True Cost of Cutting the Cord*, (May 18, 2015), <http://www.makeuseof.com/tag/cancelling-cable-true-cost-cutting-cord/> (noting that “If you’re a sports fan ... cord-cutting probably isn’t for you. At least not right now.”).

<sup>208</sup> Section 623(k) was adopted as Section 3(k) of the 1992 Cable Act, Pub. L. No. 102-385, 106 Stat. 1460, codified at 47 U.S.C. § 543(k).

<sup>209</sup> *See 2014 Cable Price Report*, 29 FCC Rcd 14895.

<sup>210</sup> *Id.* at 14915-16.

**Table III.A.4**  
**Average Monthly Prices**

	Basic Service Price	Expanded Basic Service Price	Next Most Popular Service	Price Per Channel – Expanded Basic Service
2013	\$26.41	\$69.18	\$82.47	\$0.491
2014	\$27.51	\$71.45	\$84.65	\$0.496
Annual Change	4.2%	3.3%	2.7%	0.9%

**b. Video Subscribers and Penetration**

73. *Video Subscribers.* Throughout the growth phase of the MVPD industry – which was accompanied by the competitive entry of DBS and then telephone MVPDs – some MVPDs gained market share while some rivals lost market share, but the total number of MVPD subscribers continued to increase.<sup>211</sup> Data suggest that the growth phase of the MVPD industry may have come to an end.<sup>212</sup> Although cable MVPDs experienced flattened or declining subscribership since 2001, DBS and telephone MVPD gains were greater than cable’s losses, until recently.<sup>213</sup> In Table III.A.5, we show data for video subscribers for 2013 and 2014. In 2013, and again in 2014, cable losses were no longer outweighed by gains from rival MVPDs. In 2013 and 2014, the total number of subscribers to MVPD video services actually fell.<sup>214</sup> SNL Kagan estimates that MVPD subscriptions fell 142,000 in 2013, and 176,000 in 2014.<sup>215</sup> In both 2013 and 2014, DBS and telephone MVPDs gained video subscribers, but it was not enough to overcome cable losses. In a mature market for MVPD video services, telephone MVPDs may continue expanding their footprint (albeit at a slower pace) and growing subscribership, but most of their new customers will come from existing MVPD rivals.<sup>216</sup> As such, further expansion by telephone MVPDs, while increasing competition in the marketplace for the delivery of video programming, may not lead to an increase in the number of homes subscribing to MVPD video services.

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<sup>211</sup> *Id.*

<sup>212</sup> *Id.*

<sup>213</sup> *Id.*

<sup>214</sup> *Id.*

<sup>215</sup> Tony Lenoir, *U.S. Multichannel Subscriber Update and the Rise of Broadband-Only Homes*, SNL KAGAN, Special Report, April 1015.

<sup>216</sup> *Cable TV Investor*, June 19, 2015, at 4-8.

**Table III.A.5**  
**MVPD Video Subscribers (in millions)<sup>217</sup>**

	Year-End 2013	Year-End 2014
<b>Cable</b>	<b>55.1</b>	<b>53.7</b>
Comcast	22.6	22.4
Time Warner Cable	11.2	10.8
Charter	4.1	4.1
Cox	4.3	4.1
Cablevision	2.8	2.7
<b>DBS</b>	<b>34.3</b>	<b>34.3</b>
DIRECTV	20.3	20.4
DISH Network	14.1	14.0
<b>Telephone</b>	<b>11.8</b>	<b>13.2</b>
AT&T U-verse	5.5	5.9
Verizon FiOS	5.3	5.6
CenturyLink	0.2	0.2
Consolidated Comm.	0.1	0.1
Cincinnati Bell	0.1	0.1
<b>MVPD Total</b>	<b>101.7</b>	<b>101.6</b>

74. *Video Penetration.* From 2013 to 2014, video penetration declined for the largest cable MVPDs, changed little for the two DBS MVPDs, and increased for AT&T U-verse and Verizon FiOS (see Table III.A.6). We note that DBS MVPDs exhibit lower video penetration, relative to wireline MVPDs. Of course, the systems DBS MVPDs use to deliver video programming differ from the systems wireline MVPDs use to deliver video programming, which may suggest different cost structures. Thus, DBS MVPDs may be viable with lower video penetration, relative to wireline MVPDs.

<sup>217</sup> Totals for MVPD, Cable, DBS, and Telephone come from SNL Kagan, <https://www.snl.com/interactivex/MultichannelIndustryBenchmarks.aspx?startYear=2013&endYear=2014> (last visited Sept. 2, 2015). Data for individual companies come from 2014 annual reports, 10-Ks, and SNL Kagan, <https://www.snl.com/InteractiveX/TopCableMSOs.aspx?period=2013Q4&sortcol=subscribersbasic&sortorder=desc> and <https://www.snl.com/InteractiveX/TopCableMSOs.aspx?period=2014Q4&sortcol=subscribersbasic&sortorder=desc> (last visited Sept. 9, 2015). Please note that, because the data come from different sources and the numbers have been rounded, the totals do not reflect the sum of the individual companies.

**Table III.A.6  
MVPD Video Penetration<sup>218</sup>**

	<b>Year-End 2013</b>	<b>Year-End 2014</b>
<b>Comcast</b>	41.9%	40.9%
<b>Time Warner Cable</b>	38.1%	36.1%
<b>Charter</b>	33.9%	33.4%
<b>Cox</b>	41.4%	39.0%
<b>Cablevision</b>	55.9%	53.1%
<b>DIRECTV</b>	15.2%	15.2%
<b>DISH Network</b>	10.6%	10.5%
<b>AT&amp;T U-verse</b>	20.2%	21.1%
<b>Verizon FiOS</b>	35.0%	35.8%

**c. Revenue**

75. Video subscriber losses have not resulted in video revenue losses for large MVPDs. SNL Kagan explains that revenue generated from video subscription is on an upward trajectory despite a declining subscriber base “because of persistent annual rate hikes.”<sup>219</sup> From 2013 to 2014, cable video revenue increased from \$61.5 billion to \$62.3 billion, an increase of 1.3 percent, and DBS video revenue increased from \$38.6 billion to \$40.6 billion, an increase of 5.2 percent (see Table III.A.7). AT&T and Verizon do not report video revenue separate from other services.

<sup>218</sup> Video penetration for cable companies come from SNL Kagan, <https://www.snl.com/InteractiveX/TopCableMSOs.aspx?period=2013Q4&sortcol=subscribersbasic&sortorder=desc> and <https://www.snl.com/InteractiveX/TopCableMSOs.aspx?period=2014Q4&sortcol=subscribersbasic&sortorder=desc> (last visited Sept. 9, 2015). Estimates for DIRECTV, DISH Network, and AT&T were derived by dividing each company’s subscribers by the number of homes. Data for Verizon come from their *2014 Annual Report*, at 20.

<sup>219</sup> *Cable TV Investor*, July 31, 2014, at 3.

**Table III.A.7**  
**MVPD Video Revenue (in billions)**<sup>220</sup>

	2013	2014	Percentage Change
<b>Cable</b>	<b>\$61.5</b>	<b>\$62.3</b>	<b>1.3%</b>
Comcast	\$20.5	\$20.8	1.2%
Time Warner Cable	\$10.5	\$10.0	-4.6%
Charter	\$4.0	\$4.4	10.0%
<b>DBS</b>	<b>\$38.6</b>	<b>\$40.6</b>	<b>5.2%</b>
DIRECTV	\$24.7	\$26.0	5.4%
DISH Network	\$13.9	\$14.6	5.0%

76. *Average Revenue Per Unit (ARPU) for Video Services.* ARPU will grow in response to rate increases for video services and when subscribers to lower priced video packages cut the cord. It will decrease when subscribers move to lower priced video packages or skinny bundles and when MVPDs engage in aggressive discounts to win or retain subscribers. SNL Kagan data show that for many MVPDs, ARPU increased from 2013 to 2014.<sup>221</sup> An average weighting of 11 MVPDs showed ARPU for video services growing from \$77.15 per month at the end of 2013, to \$79.64 per month at the end of 2014.<sup>222</sup> In Table III.A.8, we show ARPU for a sample of large MVPDs. AT&T and Verizon do not report video revenue separately, so we are unable to estimate monthly video ARPU for these companies.

**Table III.A.8**  
**Monthly Video ARPU**<sup>223</sup>

	2013	2014	Percentage Change
<b>Comcast</b>	\$75.80	\$77.38	2.1%
<b>Time Warner Cable</b>	\$78.00	\$77.25	-1.0%
<b>Charter</b>	\$80.60	\$89.00	10.4%
<b>DIRECTV</b>	\$102.18	\$106.94	4.7%
<b>DISH Network</b>	\$80.37	\$83.77	4.2%

<sup>220</sup> We calculated cable video revenue by subtracting Internet and voice revenue from total cable residential revenue. SNL Kagan, <https://www.snl.com/interactivex/MultichannelIndustryBenchmarks.aspx?startYear=2013&endYear=2014> (last visited Sept. 2, 2015). Video revenue for individual companies come from annual reports.

<sup>221</sup> *Cable TV Investor*, Mar. 26, 2015, at 16.

<sup>222</sup> *Id.*

<sup>223</sup> We calculated monthly video ARPU for cable MVPDs by dividing video revenue by the number of video subscribers and then dividing by 12. ARPU for DIRECTV and DISH Network come from annual reports.

**d. Video Margins**

77. SNL Kagan maintains that video rate increase have failed to keep up with increased costs, especially programming costs, and the result has been falling video margins (*i.e.*, revenue minus cost divided by revenue).<sup>224</sup> At the end of 2013, video margins for the three largest cable MVPDs (by subscribers) averaged 19.2 percent.<sup>225</sup> This fell to 17.3 percent at the end of 2014.<sup>226</sup> SNL Kagan predicts that MVPDs will continue to increase revenue through annual rate hikes and by moving customers to higher priced video services, but increasing revenues will continue to be outpaced by increasing costs.<sup>227</sup> According to SNL Kagan, the pressure of programming costs on MVPD video margins is not expected to let up, especially as MVPDs pursue expanded rights for VOD and TV Everywhere programming.<sup>228</sup>

**B. Broadcast Television Stations****1. Introduction**

78. Advances in technology provide challenges as well as benefits to broadcast television stations. Industry participants note that video delivery options and programming alternatives such as MVPDs, OVDs, mobile devices, DVRs, and home video entertainment systems have fractionalized television viewing and audiences, expanded the number of outlets for advertisers, and increased competition for the acquisition of programming.<sup>229</sup> Industry participants also note that video compression techniques enable MVPDs and competing television stations to carry more programming (*e.g.*, via multicasting), potentially fractionalizing audiences and advertisers even further.<sup>230</sup>

79. Commercial broadcast stations cater to two distinct sets of customers: audiences and advertisers.<sup>231</sup> Stations seek to provide desirable content to attract and maximize their audiences. In turn, they derive revenues primarily by selling time to advertisers during their broadcasts based on the size and demographic characteristics of the audiences they reach.<sup>232</sup> Individual commercial stations compete primarily with other commercial broadcast stations within their local markets (DMAs) for audiences and advertising revenue. Noncommercial educational (NCE) stations, while not relying on advertising

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<sup>224</sup> *Cable TV Investor*, May 28, 2015, at 15-17.

<sup>225</sup> *Cable TV Investor*, Mar. 26, 2015, at 12-13.

<sup>226</sup> *Id.*

<sup>227</sup> *Cable TV Investor*, Nov. 19, 2015, at 1-6; *Cable TV Investor*, June 19, 2015, at 14-15.

<sup>228</sup> *Cable TV Investor*, May 28, 2015, at 15-17.

<sup>229</sup> Nexstar Broadcasting Group, Inc., SEC Form 10-K for the Year Ended December 31, 2014, at 25 (Nexstar 2014 Form 10-K), 2014; Gray Television, Inc., SEC Form 10-K for the Year Ended December 31, 2014 (Gray 2014 Form 10-K) at 27, 2014; Sinclair Broadcast Group, Inc., SEC Form 10-K for the Year Ended December 31, 2014, at 33 (Sinclair 2014 Form 10-K).

<sup>230</sup> Nexstar 2014 Form 10-K at 24; Sinclair 2014 Form 10-K at 33.

<sup>231</sup> Television stations are dependent on advertisers and audiences. Television stations need to attract audiences in order to earn money from advertising. They need advertising revenues in order to make investments in programming that will attract audiences. *See* David S. Evans & Richard Schmalensee, *The Industrial Organization of Markets with Two-Sided Platforms*, COMPETITION POL'Y INT'L 151, 155-56 (2007) (discussing the economics of two-sided platforms and its application to competition policy issues, especially as it relates to advertising-supported media).

<sup>232</sup> “[B]roadcasting in any and all of its forms is an audience aggregation business.” Harold L. Vogel, ENTERTAINMENT INDUSTRY ECONOMICS (8<sup>th</sup> ed. 2011) (Vogel) at 288.

revenues,<sup>233</sup> compete with commercial stations for viewers. Other media, including daily newspapers, local, regional and national cable networks, and Internet sites, earn advertising revenues by attracting audiences within the geographic areas they serve.<sup>234</sup> A broadcast station's advertising revenues depends on viewership of its television programs, regardless of whether consumers receive the station's signal over the air or via an MVPD. Today, broadcast stations are turning increasingly to additional revenue sources, including retransmission consent fees from MVPDs and advertising sold on their websites.<sup>235</sup> NCE broadcast stations rely on underwriters, viewer donations, and government funding for their operations, and seek to attract audiences as a way to increase their revenues from these sources.

## 2. Broadcast Television Industry Providers

80. In this section of the Report, we describe critical elements of the broadcast television industry, focusing on commercial, full-power stations.<sup>236</sup> We then discuss horizontal concentration and vertical integration in the market. Next, we describe conditions affecting market entry during the relevant period, including an overview of existing regulations and market conditions that might influence entry decisions. Finally, we address recent entry into and exit from the market.

81. Nationally, the number of broadcast stations has remained stable in recent years, as shown in Table III.B.1. At the end of 2014, there were 1,032 commercial UHF stations and 358 commercial VHF stations,<sup>237</sup> compared to 1,030 commercial UHF stations and 358 commercial VHF stations at the end of 2013.<sup>238</sup> The transition from analog to digital service has allowed broadcast television stations to offer more programming, including both HD signals and standard-definition (SD) multicast channels.<sup>239</sup> Between the end of 2012 and the beginning of 2015, the number of multicast channels grew from 5,511 to 6,431.<sup>240</sup>

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<sup>233</sup> In light of their noncommercial nature, NCE stations are statutorily prohibited from airing commercial advertisements in exchange for consideration. See 47 U.S.C. § 399(B)(a)(1), 47 CFR § 73.621(e).

<sup>234</sup> See, e.g., Nexstar 2014 Form 10-K, at 9; Sinclair Form 10-K, at 5.

<sup>235</sup> Gray Form 10-K, at 3, Sinclair 2014 Form 10-K, at 5.

<sup>236</sup> The broadcast television station group consists of commercial and noncommercial, full-power, Class A, and low-power broadcast television stations. We focus on commercial, full-power broadcast television stations because of their impact on competition in the market for the delivery of video programming and the limitations on available data for other types of stations.

<sup>237</sup> See FCC, Licensed Broadcast Station Totals, <https://www.fcc.gov/media/broadcast-station-totals> (FCC Broadcast Station Totals).

<sup>238</sup> See *16<sup>th</sup> Report*, 30 FCC Rcd at 3320, para. 145.

<sup>239</sup> See *id.* at 3253, para. 145.

<sup>240</sup> SNL Kagan, *TV Stations Multiplatform Analysis Update: Digital Multicast continue to expand with new network offerings*, December 23, 2014.

**Table III.B.1**  
**Total Full Power Broadcast Television Stations by Year<sup>241</sup>**

Station Type	12/31/12	12/31/13	12/31/14
UHF Commercial	1,028	1,030	1032
VHF Commercial	358	358	358
<b>Total</b>	1,386	1,388	1,390

82. The Commission licenses these stations to both individual and group owners to serve local communities within DMAs. The number of television stations assigned to individual television markets varies, depending principally on the size of the market. Television markets containing rural populations tend to have fewer local full-power stations than those comprised of urban areas. Consumers in smaller markets may also rely more on multicasting than those in large markets for the delivery of major network programming such as that of ABC, CBS, FOX, NBC, and other programming such as that from CW and myNetworkTV.<sup>242</sup>

83. Programming is a critical input for broadcast television stations to compete effectively in the industry. Most full-power commercial stations (approximately 90 percent) get at least some of the programming aired over their primary programming streams from broadcast networks.<sup>243</sup> Broadcast stations also acquire programming from television syndicators that distribute original (first-run syndication) programming or reruns of network television series (off-net syndication). In addition, local broadcast stations produce programming in-house, such as local newscasts, public affairs shows, and coverage of regional and local sporting events.<sup>244</sup>

**a. Horizontal Concentration**

84. *National Group Ownership.* The Commission's rules impose a cap that limits the percentage of television households that one television station group owner can serve to 39 percent of U.S. television households.<sup>245</sup> According to SNL Kagan, as of 2014, the largest group owners by coverage percentage of U.S. television households, include ION Media Networks (65.2%), Univision Communications, Inc. (44.8%), Tribune Media Company (42.9%), CBS (38.1%), FOX (37.4%), Sinclair Broadcast Group, Inc., (37.0%), Comcast Corporation (36.8%), TEGNA Inc. (29.6%), Media General, Inc. (23.4%), and Walt Disney (23.4%).<sup>246</sup> Analyzing the largest group owners in terms of net broadcast

<sup>241</sup> See FCC Broadcast Station Totals.

<sup>242</sup> In 2014, 27 of the 210 television markets had fewer than three full-power commercial broadcast stations assigned to them. All of these markets are ranked below 100. See BIA, television station by market data, October 2015. DMA ranks and number of stations within each DMA are not directly correlated. See *id.* Combined, all 27 markets with fewer than three stations represent about 1.7 million television households, or approximately 1.5 percent of the estimated 116.4 television households nationwide as of the 2014-2015 television season. See Nielsen Company, *Local Television Market Universe Estimates*, used throughout the 2014-2015 television season.

<sup>243</sup> BIA/Kelsey, BIA Media Access Pro Television Database as of May 2014 (evaluation of network affiliation data for all Nielsen DMAs).

<sup>244</sup> See, e.g., Nexstar 2014 Form 10-K at 11; Gray 2014 Form 10-K at 11.

<sup>245</sup> 47 CFR §73.3555(e); 1996 Act, § 202(c).

<sup>246</sup> SNL Kagan, *Top Commercial TV Station Groups w/out UHF Discount* (October 2015). These numbers represent percentage of total U.S. households reached by the station group without regard to the UHF discount contained in Section 73.3555(e), which generally permits a 50 percent reduction in the calculation of a station's reach if the station is broadcasting on UHF spectrum. Currently, the Commission is considering whether the UHF discount

(continued....)

revenue results in a slightly different list. The top station groups in 2014 in terms of revenue include CBS, Sinclair, TEGNA Inc., Comcast, E.W. Scripps, Gray, Nexstar, Univision, Walt Disney, and Media General.<sup>247</sup>

85. *Local Duopolies.* Commission rules limit the number of broadcast television stations that a single entity can own within a DMA based on the number of independently owned stations in the market.<sup>248</sup> The local television ownership rule permits a single entity to own two television stations in the same local market if (1) the Grade B contours of the stations do not overlap; or (2) at least one of the stations in the combination is not ranked among the top four stations in terms of audience share, and at least eight independently owned and operating commercial or noncommercial full-power broadcast television stations would remain in the market after the combination.<sup>249</sup>

86. As of October 2015, 100 markets contained at least one duopoly.<sup>250</sup> Seven top-ranked DMAs had four duopoly combinations: New York, Los Angeles, Dallas-Ft. Worth, San Francisco-Oakland-San Jose, Seattle-Tacoma, Boston, and Phoenix.<sup>251</sup> While larger DMAs tend to have a greater number of duopolies, smaller DMAs have duopolies as well.

#### b. Vertical Integration

87. Some stations are vertically integrated upstream, with suppliers of programming, as well as downstream, with distributors of programming. For instance, the parent company of a station may have ownership interests in television production studios, movie studios, sports teams, broadcast television networks, cable networks, or syndicators. On the other hand, Comcast's acquisition of NBC/Universal resulted in downstream vertical integration of NBC's owned and operated (O&O) stations with a cable MVPD.

88. The parent companies of two of the top seven station groups (by total station count) – ION Media Networks and Univision Communications, Inc. – representing 101 O&Os – each own all or part of at least one broadcast television network.<sup>252</sup> Broadcast networks often own and operate their own

(Continued from previous page) \_\_\_\_\_  
should be eliminated as a result of the transition to digital broadcasting. *See Amendment of Section 73.3555(e) of the Commission's Rules, National Television Multiple Ownership Rule*, Notice of Proposed Rulemaking, 28 FCC Rcd 14324 (2013).

<sup>247</sup> See SNL Kagan, *Broadcast Investor: Deals & Finance*, Oct. 30, 2015, at 17-20. TEGNA, Inc. was formerly Gannett Co. Media General announced plans to purchase Meredith Corp. for approximately \$3.04 billion on September 8, 2015. On September 28, 2015, Nexstar Broadcasting Group Inc. issued an unsolicited offer to buy Media General for \$4.1 billion-an offer that did not include the assets coming from the proposed Meredith transaction. See SNL-Kagan Broadcast Investor B-Stats Q3 15, October 28, 2015. See *infra*, para. 100 for information about significant recent transactions that are relevant to group ownership of television stations.

<sup>248</sup> See 47 CFR §73.3555(b).

<sup>249</sup> *Id.* In the context of the Media Ownership proceeding, the Commission is considering revising this rule, including whether the reference to the analog Grade B contour should be updated to refer to a comparable digital contour. See *2014 Quadrennial Regulatory Review – Review of the Commission's Broadcast Ownership Rules and Other Rules Adopted Pursuant to Section 202 of the Telecommunications Act of 1996*, Further Notice of Proposed Rulemaking and Report and Order, 29 FCC Rcd 4371, 4383, 4384-85, paras. 26, 30 (2014) (*2014 Quadrennial Review FNPRM and JSA Report and Order*).

<sup>250</sup> See BIA Database October 2015 (evaluation of station ownership information for all Nielsen DMAs). In addition, San Juan, Puerto Rico, which is not part of any DMA, has six television station combinations.

<sup>251</sup> *Id.*

<sup>252</sup> *Id.*

stations in the largest television markets. Spanish-language broadcast networks, *e.g.*, Univision and Telemundo, own and operate television stations in the largest Spanish-speaking markets.

89. In addition to ownership of broadcast networks, a number of owners of local broadcast stations also have interests in cable networks.<sup>253</sup> For example, through its ownership of NBCUniversal, Comcast has ownership interests in 28 standard definition (SD) and 24 high definition (HD) national cable networks.<sup>254</sup> Other broadcast station owners with affiliated cable networks are: The Walt Disney Company with interests in 22 SD and 19 HD cable networks; Univision with interests in 13 SD and 3 HD affiliated cable networks; and CBS Corporation with interests in 16 SD and 16 HD cable networks.<sup>255</sup> 21<sup>st</sup> Century Fox has ownership interests in 16 SD and 14 HD national cable networks and Hearst Television Inc. has 18 SD and 14 HD national cable networks.<sup>256</sup> Several broadcast television group owners that are not vertically integrated with broadcast networks also have ownership interests in cable networks. These owners include InterMedia Partners (4 SD and 4 HD cable networks), Scripps Networks Interactive (7 SD and 6 HD cable networks), Cox Communications Inc. (3 SD and 3 HD cable networks), and Hubbard Broadcasting Corp. (2 SD and 2 HD cable networks).<sup>257</sup> Combined, InterMedia, Scripps, Cox, and Hubbard own 31 broadcast television stations. Other broadcast station groups operate local and regional cable news channels.<sup>258</sup>

90. Comcast is the only distributor of video programming with ownership interests in each mode of video distribution covered by this Report; it is an MVPD that owns and operates 26 full-power television stations (NBC and Telemundo O&Os)<sup>259</sup> and maintains an ownership interest in Hulu, an OVD,<sup>260</sup> in addition to owning a broadcast network. 21<sup>st</sup> Century Fox (which owns 29 broadcast television stations) and Disney/ABC (which owns eight broadcast television stations) also have ownership interests in Hulu.<sup>261</sup> Other than Comcast, Cox Media Holdings is the only MVPD that owns broadcast stations serving a DMA where it also owns a cable system.<sup>262</sup>

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<sup>253</sup> Appendix B contains information about common ownership of broadcast television stations and cable networks. *See infra*, para. 100 for information about significant recent transactions that are relevant to vertical integration.

<sup>254</sup> *See* Appendix B. In this Report, we count SD and HD networks separately.

<sup>255</sup> SNL Kagan, TV Networks by Owner: 2015, SNLxI Template (2015 TV Network Owners). *See also* Appendix B. Comcast, Viacom, 21<sup>st</sup> Century Fox, and The Walt Disney Company also control production studios, which are the primary source of programming for their networks, and hold ultimate distribution rights for their programming, subject to contractual negotiations. *See* 16<sup>th</sup> Report, 30 FCC Rcd at 3324, para. 157.

<sup>256</sup> *See* Appendix B.

<sup>257</sup> *See id.*

<sup>258</sup> *See id.*

<sup>259</sup> *See id.* Comcast's cable systems overlap with NBCUniversal's stations in six markets: San Francisco, Philadelphia, Chicago, Miami, Hartford, and Washington, DC. *Comcast-NBCU Order*, 26 FCC Rcd at 4289, para. 126 & n. 302 (2011).

<sup>260</sup> *See infra*, para. 137.

<sup>261</sup> *See id.*; Appendix B.

<sup>262</sup> In the Orlando-Daytona Beach-Melbourne DMA, Cox owns two television stations – WFTV, an ABC affiliate, and WRDQ, an independent station – as well as a cable system serving Ocala, Florida. *See* Cox Media Group, Orlando, <http://www.coxmediagroup.com/who-we-are/media-brands-and-markets/orlando> (last visited Jan 6, 2016); <https://www.cox.com/residential/home.html> (last visited Jan 6, 2016). *See also* Appendix B.

**c. Conditions Affecting Entry and Competition**

91. The Commission's broadcast television licensing and allocation regime affects participation and competition in the broadcast television industry. The amount of spectrum the Commission has authorized exclusively for broadcast television use and the allocation of that spectrum across the United States limits the number of entities that can participate in the industry. Licensees may go out of business and return broadcast licenses for the Commission to reissue, or the Commission may auction channels for new broadcast stations. In addition, non-regulatory conditions are relevant to competition in the broadcast television industry. For example, stations require access to programming and capital to remain competitive and operational.

**(i) Regulatory Conditions**

92. Broadcast television stations must receive Commission authorization before they may construct and operate in the United States.<sup>263</sup> The Commission licenses broadcast spectrum to respective applicants and approves any assignment or transfer of control of broadcast licenses.<sup>264</sup> In addition, certain obligations and rules are imposed on licensees to ensure that the licensed spectrum is used to serve the public interest during each license term, which is generally eight years.<sup>265</sup> These obligations and rules remain largely unchanged since issuance of the last video competition report.<sup>266</sup> We discuss any significant changes in broadcast television regulation since the last report below.

93. *Joint Sales Agreements.* In conjunction with the 2014 *Quadrennial Review FNPRM*, the Commission released a *Report and Order* adopting a rule that made certain television joint sales agreements (JSAs) attributable for purposes of compliance with the broadcast ownership rules.<sup>267</sup> The Commission initially required parties with such agreements to come into compliance with the broadcast ownership rules by June 19, 2016.<sup>268</sup> Subsequently, the STELA Reauthorization Act of 2014 extended the compliance deadline until December 19, 2016.<sup>269</sup> Thereafter, the Consolidated Appropriations Act of 2016 extended the compliance deadline through September 20, 2025.<sup>270</sup> In May 2014, multiple parties sought appellate review of the *FNPRM* and *Report and Order* in both the D.C. Circuit and the Third Circuit.<sup>271</sup>

94. *Incentive Spectrum Auctions.* The Commission's broadcast incentive auction is a voluntary, market-based approach to repurposing the 600 MHz spectrum band by encouraging full-power and Class A television broadcast licensees to voluntarily relinquish spectrum usage rights in exchange for

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<sup>263</sup> 47 U.S.C. § 301.

<sup>264</sup> 47 U.S.C. §§ 303(c), 308(a), 309(a), 310(d).

<sup>265</sup> 47 U.S.C. § 307(c); 47 CFR §§ 73.1020, 73.3555.

<sup>266</sup> *16th Report*, 30 FCC Rcd at 3325-27, paras. 161-64.

<sup>267</sup> *JSA Report and Order*, 27 FCC Rcd at 4518-19 (2014). Under the new rule, television stations brokered under a same-market television JSA that encompasses more than 15 percent of the weekly advertising time for the brokered station will be counted toward the brokering station's permissible ownership totals. *Id.*, 27 FCC Rcd at paras. 340, 359-60.

<sup>268</sup> *Media Bureau Announces Effective Date of the Television Joint Sales Agreement Attribution Rule*, Public Notice, 29 FCC Rcd 7346 (MB 2014).

<sup>269</sup> STELA Reauthorization Act of 2014, Pub. L. No. 113-200, § 104, 128 Stat. 2059, 2063 (2014).

<sup>270</sup> Consolidated Appropriations Act, 2016, Pub. L. No. 114-113, § 628 (2015).

<sup>271</sup> *Prometheus Radio Project v. FCC*, Nos. 15-3863, *et al.* (3d Cir. docketed Dec. 10, 2015). At the time of this Report, the proceeding remains pending.

a share of the proceeds from an auction of new licenses to use the repurposed spectrum to provide wireless services.<sup>272</sup> Broadcasters that participate and are selected will receive auction proceeds and either go off the air, move to high- or low-VHF channels, or channel share with another station. Broadcasters that participate and are not selected, or that choose not to participate, will retain their spectrum usage rights, but they may be relocated (“repacked”) to a new channel in their pre-auction bands in order to create contiguous blocks of cleared spectrum suitable for wireless services. Broadcasters will be eligible for reimbursement of repacking expenses if they are assigned new channels post-auction.

95. The Commission established the rules and policies for the auction in 2014,<sup>273</sup> and finalized the auction procedures in 2015.<sup>274</sup> Both forward and reverse auction applications were filed in late 2015 or early 2016.<sup>275</sup> The auction commenced on March 29, 2016.<sup>276</sup> After the conclusion of the auction, the Commission will release a public notice announcing the new channel locations for stations that remain on the air. Those stations will have up to 39 months after release of that public notice to complete the transition to their new channels.<sup>277</sup> The Commission adopted rules governing the post-auction transition in 2014, and delegated authority to the Media Bureau to carry out the transition by, among other things, contracting with an entity to serve as reimbursement administrator.<sup>278</sup>

#### (ii) Non-regulatory Conditions

96. The primary means of entering the television broadcast industry is to purchase broadcast properties from licensees who are already operating stations rather than constructing new broadcast station infrastructure and obtaining a new license. Once the Commission has approved the transaction and the new owner takes over the operations of an existing station, the new owner may decide to change programming by affiliating with a different network, purchasing new syndicated programming, or changing on-air talent for local programming, such as newscasts, subject to the terms of their contracts.

97. *Access to Capital.* Entities seeking to enter the broadcasting industry, either by purchasing properties or launching a new station, require access to capital, which may come in the form of debt or equity financing. In determining whether to lend money or invest in a licensee, banks or other firms look at expected revenues and expenses, especially whether new owners could increase profits by changing programming or reducing expenses. Structural changes in the media industry, combined with

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<sup>272</sup> See *16th Report*, 30 FCC Rcd at 3327-28, para. 165.

<sup>273</sup> *Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*, GN Docket No. 12-268, Report and Order, 29 FCC Rcd 6567 (2014) (*Incentive Auction R&O*), *aff'd*, *Nat'l Assoc. of Broadcasters, et al. v. FCC*, 789 F.3d 165 (D.C. Cir. 2015).

<sup>274</sup> See, e.g., *Broadcast Auction Scheduled to Begin March 29, 2016; Procedures for Competitive Bidding in Auction 1000, Including Initial Clearing Target Determination, Qualifying to Bid, and Bidding in Auctions 1001 (Reverse) and 1002 (Forward)*, AU Docket No. 14-252, GN Docket No. 12-268, WT Docket No. 12-269, Public Notice, 30 FCC Rcd 8975 (2015) (*Bidding Procedures Public Notice*); *Application Procedures for Broadcast Incentive Auction Scheduled to Begin on March 29, 2016; Technical Formulas for Competitive Bidding*, AU Docket No. 14-252, GN Docket No. 12-268, WT Docket No. 12-269, Public Notice, 30 FCC Rcd 11034 (2015).

<sup>275</sup> *Incentive Auction Task Force Releases Revised Baseline Data and Prices for Reverse Auction; Announces Revised Filing Window Dates*, AU Docket No. 14-252, GN Docket No. 12-268, WT Docket No. 12-269, Public Notice, 30 FCC Rcd 12559 (Nov. 12, 2015); *Forward Auction Application Filing Window Opens Today at Noon After One-Day Weather Delay; FCC Form 175 Deadline Extended to February 10, 2016*, AU Docket No. 14-252, GN Docket No. 12-268, WT Docket No. 12-269, Public Notice, DA 16-89 (Jan. 27, 2016).

<sup>276</sup> See *Bidding Procedures Public Notice*, 30 FCC Rcd 8975.

<sup>277</sup> *Incentive Auction R&O*, 29 FCC Rcd at 6580, para. 34.

<sup>278</sup> See *id.* at 6797-6802, 6820, paras. 563-73, 618.

the strong correlation of their revenues and profits to economic cycles, indicate that financing media transactions with debt entails some risk.<sup>279</sup> In particular, high interest rates may lead station owners to file for bankruptcy and transfer control to lenders or sell their stations.<sup>280</sup>

98. *Programming.* Access to programming also affects the ability of licensees to enter and remain in the industry.<sup>281</sup> Network affiliation agreements and syndication contracts often last several years. If a station loses its network affiliation, it may not be able to affiliate with an alternative network, because that alternative network is likely to already have a distribution agreement in place with another station in the market. The loss of this programming could require the station to obtain replacement programming at a higher cost, and that may be less attractive to its target audience, thereby causing it to lose advertising revenues while potentially increasing expenses. Similarly, popular syndicated programming may not be available for a new station due to exclusive distribution arrangements with competing stations or cable networks.<sup>282</sup> As an alternative to contracting for expensive third-party programming, stations may produce their own programming in-house or lease time to other parties (*e.g.*, producers of infomercials) willing to pay stations for the airing of programming.

#### d. Recent Entry and Exit

99. Overall, between December 31, 2013, and December 31, 2014, the number of full-power commercial television stations on the air increased by two, from 1,388 to 1,390.<sup>283</sup> During this period, the total number of full-power noncommercial television stations decreased by one, down to 395.<sup>284</sup> In 2013, 286 stations were purchased for a total \$11.1 billion, or an average of \$38.9 million per station, with an average cash flow multiple of 8.2.<sup>285</sup> In 2014, 145 stations were sold for a total of \$7.2 billion, or an average of \$49.6 million per station, with an average cash flow multiple of 8.1. These figures are largely consistent with the increase in station transaction volume since 2010, when just 24 full-power stations traded hands in deals totaling \$155 million.<sup>286</sup> Average cash flow multiples for 2014 are down from the 2012 and 2013 values.<sup>287</sup>

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<sup>279</sup> Lenders impose restrictions (covenants) on the ratio of debt to equity and earnings before interest and taxes (EBIT) to interest. Sinclair 2014 Form 10-K at 26; Nexstar 2014 Form 10-K at 16; Gray 2014 Form 10-K at 20-21. Some station groups have faced concerns about breaching such loan covenants. *See, e.g.*, Taigh Khan, *S&P Cuts Media General on Declining Revenue, Tightening Covenants*, SNL KAGAN (Oct. 28, 2012).

<sup>280</sup> Nexstar 2014 Form 10-K at 16; Gray 2014 Form 10-K at 21-22.

<sup>281</sup> Broadcasters differ in the value they place on programming with respect to a station's purchase price. For example, Gray believes that the value of a television station is derived primarily from the attributes of its broadcast license, rather than its type of programming, *i.e.*, whether or not it is an affiliate of one of the major four broadcast networks. Gray 2014 Form 10-K at 53.

<sup>282</sup> Stations compete against in-market broadcast stations for exclusive access to syndicated programming within their markets. In addition, cable networks occasionally acquire programs that might otherwise be offered to stations, and some programs are available via OVDs. Nexstar 2014 Form 10-K at 10-11. Stations usually purchase syndicated programming two to three years in advance, and sometimes must make multi-year commitments. Gray 2014 Form 10-K at 24; Sinclair 2014 Form 10-K at 33.

<sup>283</sup> *See supra*, Table III.B.1; Broadcast Stations Totals.

<sup>284</sup> *See id.*

<sup>285</sup> SNL Kagan, *TV Station Deals Databook 2015 Edition*, at 8 (May 18, 2015) (*SNL Kagan TV Station Databook*).

<sup>286</sup> *Id.*

<sup>287</sup> *Id.*

100. Since the last report, several major transactions have occurred.<sup>288</sup> Examples include:

- In February 2014, Granite Broadcasting Corp. sold 11 of its stations for \$300 million. E.W. Scripps bought Granite's stations in Detroit and Buffalo for \$110 million. The other nine stations in Peoria-Bloomington, IL, Ft. Wayne, IN., Binghamton, NY, Duluth, Minn.-Superior, WI, were bought by partners Quincy Newspapers Inc. and SagamoreHill Broadcasting LLC.<sup>289</sup>
- In March 2014, as part of a larger stock/cash transaction between Berkshire Hathaway, Inc. and Graham Holdings Co., Miami ABC affiliate WPLG, owned by Post-Newsweek, changed hands for \$364.0 million.<sup>290</sup>
- In December 2014, Media General acquired LIN Media's 42 full-power stations and 14 class-A and low-power stations in 24 markets for \$2.5 billion.<sup>291</sup>
- In a June 2014 television station swap, 21<sup>st</sup> Century Fox, Inc. acquired two stations in the San Francisco-Oakland-San Jose market, and in return, Fox transferred its affiliates in the Boston and Memphis, TN, markets to Cox. It is estimated that each side of the transfer was worth \$429.7 million.<sup>292</sup>
- In June 2014, Gray Television completed a series of transactions with Hoak Media, LLC, with a total transaction value of \$335 million. As part of the transaction, Gray acquired 12 television stations and the ability to program three additional television stations from Hoak Media and Parker Broadcasting, Inc.<sup>293</sup> On February 16, 2016, Gray completed the acquisition of television stations from Schurz Communications, Inc., as well as related station acquisitions and divestitures, for a total cost of approximately \$415 million.<sup>294</sup> Gray now operates stations in 50 television markets, including multiple affiliates of ABC, CBS, Fox, and NBC.<sup>295</sup>

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<sup>288</sup> *Id.*

<sup>289</sup> Press Release, Scripps, *Scripps closes on deal to buy two stations from Granite in Buffalo, Detroit* (Jun. 16, 2014), <http://www.scripps.com/press-releases/22-scripps-closes-on-deal-to-buy-two-stations-from-granite-in-buffalo-detroit>.

<sup>290</sup> Press Release, Graham Holdings, *Graham Holdings and Berkshire Hathaway complete deal for Berkshire Hathaway to acquire WPLG-TV* (Jul. 1, 2014), <http://www.berkshirehathaway.com/news/JUL0114.pdf>.

<sup>291</sup> Press Release, Media General, *Media General completes merger with Lin Media* (Dec. 19, 2014), [http://www.mediageneral.com/press/2014/dec19\\_14\\_merger.html](http://www.mediageneral.com/press/2014/dec19_14_merger.html).

<sup>292</sup> Press Release, 21st Century Fox, *FOX Television Stations and Cox Media Group announce agreement to exchange stations in San Francisco, Boston, and Memphis*; (Jun. 14, 2014); <https://www.21cf.com/news/business/2014/fox-television-stations-and-cox-media-group-announce-agreement-exchange-stations>.

<sup>293</sup> Press Release, Gray, *Gray Closes Hoak Acquisition and Completes Refinancing of its Senior Credit Facility* (Jun. 13, 2014), <http://gray.tv/uploads/documents/pressreleases/1939826.pdf>.

<sup>294</sup> Press Release, Gray, *Gray Closes Schurz Acquisition, Related Transactions, and Incremental Term Loan Facility* (Feb. 16, 2016), <http://gray.tv/OLD/uploads/documents/pressreleases/2139772.pdf>.

<sup>295</sup> Press Release, Gray, *Gray Reports Record Operating Results* (Feb. 26, 2016), <http://gray.tv/uploads/documents/pressreleases/Press%20Release%20re%20Q4%2015%20Operating%20Results.pdf>.

- In July 2014, E.W. Scripps Co. and Journal Communications, Inc. joined forces, creating the eleventh largest television station group in the country in terms of advertising revenue. The new company includes 30 full-power and Class-A TV stations, with the stations estimated value of \$1.73 billion.<sup>296</sup>
- In August, 2014, Sinclair Broadcast Group closed a \$985 million purchase of Allbritton, consummating a transaction agreed to on July 29, 2013. The Allbritton stations included WJLA, Washington, DC; WCFT-WJSU-WBMA, Birmingham-Tuscaloosa-Anniston, AL; WHTM, Harrisburg, PA; KATV, Little Rock, AR; KTUL, Tulsa, OK; WSET, Lynchburg, VA; and WCIV, Charleston, WV while Sinclair worked out deals to sell WHTM and the non-license assets of WTAT, Charleston, SC to avoid overlap markets. The agreement also included cable channel NewsChannel 8 in Washington.<sup>297</sup>
- On January 1, 2015, Nexstar completed the acquisition of the outstanding equity of privately held Communications Corporation of America (CCA) as well as CCA's rights and obligations with respect to certain operating agreements between CCA and White Knight Broadcasting for a total consideration of \$270.0 million in cash.<sup>298</sup>

### 3. Broadcast Television Business Models and Competitive Strategies

101. A second key element of our analysis of broadcast television station competition is an examination of the business models and competitive strategies of industry participants. Broadcast stations derive most of their revenue from local and national advertising, selling on-air time to advertisers so they may reach viewers.<sup>299</sup> To differentiate themselves, stations primarily invest in the purchase and production of programming. In this section of the Report, we discuss broadcast television station competition in terms of both price and non-price rivalry.

#### a. Price Rivalry

102. *Cost to Consumers.* Broadcast television stations do not compete on consumer price in the traditional sense, because they do not charge consumers directly for the delivery of their signals. Broadcast television is free to consumers who receive it over the air. Nevertheless, because about 90 percent of all television households receive broadcast stations from an MVPD, most consumers indirectly pay for broadcast stations as part of their MVPD service fees, which are calculated, in part, to cover retransmission consent fees that the MVPD pays to local stations.<sup>300</sup> In the case of cable, broadcast television stations are part of the basic service package, which is generally the lowest price offering but is spread across the operator's entire subscriber base.<sup>301</sup>

<sup>296</sup> Press Release, Scripps, *Scripps, Journal merging broadcast operations, spinning off newspapers*; (Jul. 30, 2014); <http://www.scripps.com/press-releases/873-ew-scripps-company-completes-merger-spinoff-transaction-with-journal-communications>. See also BIA/Kelsey, BIA Media Access Pro Television Database as of May 2014 (evaluation of network affiliation data for all Nielsen DMAs).

<sup>297</sup> Press Release, SBG, *SBG to close on Allbritton stations August 1, 2014* (Jul. 25, 2014), <http://sbgi.net/pr-news/sbg-to-close-on-allbritton-stations-august-1-2014/>.

<sup>298</sup> *Applications for Consent to Assignment of Licenses* Letter Order DA 14-1757 at 1-3 (MB December 4, 2014); Nexstar 2014 Form 10-K at 3.

<sup>299</sup> See *infra*, Section III.B.4.b for detailed information about revenue sources for broadcast television stations.

<sup>300</sup> National Universe Estimates -- Market Breaks, Nielsen, Mar. 1, 2015 (data as of November 2014). Some local broadcast stations are carried pursuant to must-carry, which does not involve payment of a fee by the MVPD.

<sup>301</sup> 47 U.S.C. § 543(b)(7), 47 CFR § 76.901(a). See also *supra*, paras. 46-48 and Table III A.3. Some MVPDs include broadcast retransmission fees as a separate item on customer bills. See *supra*, para. 55.

103. *Advertising Revenue.* Television broadcast stations earn about 76 percent of their revenue through the sale of advertising time during their programs, a slight decline since the last report.<sup>302</sup> Retransmission consent revenues make up 18 percent of this revenue.<sup>303</sup> In the broadcasting industry, competition for advertising revenue occurs within individual markets and via through network advertising purchased market-by-market via national spot.<sup>304</sup> Generally, advertising rates are determined by a station's overall ability to attract viewers in its market area and its ability to attract viewers among particular demographic groups that an advertiser may be targeting.<sup>305</sup> Specifically, advertising rates depend upon factors such as: (1) the size of a station's market; (2) a station's overall ratings; (3) a program's popularity among targeted viewers; (4) the number of advertisers competing for available time; (5) the demographic makeup of the station's market; (6) the availability of alternative advertising media in the market; (7) the presence of effective sales forces; (8) the development of projects, features, and programs that tie advertiser messages to programming; and (9) the level of spending commitment made by the advertiser.<sup>306</sup> Within network shows, stations are generally permitted to sell a fixed amount of advertising time, about 2.5 to three minutes per hour. The network sells any remaining advertising time and includes such advertising in the network programming. The network retains the associated revenue. In the alternative, stations can use their allotted 2.5 to three minutes of time during network shows to promote their own programming. In newscasts or during other non-network shows, stations may sell approximately nine minutes of advertising time per hour.<sup>307</sup>

104. Local advertisers purchase time directly from a station's local sales staff. Such advertisers typically include car dealerships, retail stores, and restaurants.<sup>308</sup> National advertisers that wish to reach a particular region or local audience buy advertising time through national advertising sales representative firms.<sup>309</sup> Such advertisers typically include automobile manufacturers and dealer groups, telecommunications companies, fast food franchisers, and national retailers.<sup>310</sup> Stations compete for advertising revenue with other stations in their respective markets; advertisers may also place advertisements with other media including newspapers, radio stations, magazines, outdoor advertising, transit advertising, yellow page directories, direct mail, local cable systems, DBS systems, and online websites, as well as telephone and/or wireless companies.<sup>311</sup>

105. While individual stations do not make their advertising rates publicly available, prices for a composite group of television stations are available.<sup>312</sup> Local advertisers typically use the cost per rating point (CPP) measure to value advertising time, which represents how much it costs to buy one

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<sup>302</sup> SNL Kagan, *Total TV Station Industry Revenue Projections*, March 2015 (2015 SNL Kagan TV Revenues).

<sup>303</sup> See *infra*, Table III.B.5.

<sup>304</sup> Nexstar 2014 Form 10-K at 11; Gray 2014 Form 10-K at 12; Sinclair 2014 Form 10-K at 23.

<sup>305</sup> Nexstar 2014 Form 10-K at 10; Gray 2014 Form 10-K at 4; Sinclair 2014 Form 10-K at 23.

<sup>306</sup> Nexstar 2014 Form 10-K at 9.

<sup>307</sup> Vogel at 317, n. 29.

<sup>308</sup> Nexstar 2014 Form 10-K at 9.

<sup>309</sup> *Id.*; Entravision, *SEC Form 10-K for the Year Ended December 2014*, at 11.

<sup>310</sup> Nexstar 2014 Form 10-K at 9.

<sup>311</sup> Gray 2014 Form 10K at 13.

<sup>312</sup> See TVB, Trends: TV Cost & CPM Trends, <http://www.tvb.org/trends/4718> (last visited December 7, 2015) (TV Cost & CPM Trends).

rating point, or one percent of the population in an area being evaluated.<sup>313</sup> CPPs vary by the time of day, with prime time (8 p.m.-11 p.m., Eastern and Pacific Time; 7 p.m.-10 p.m., Central and Mountain Time), being the most expensive.<sup>314</sup> For the top 100 television markets, on average, a station's CPP for a 30-second advertisement during prime time was \$33,292 in 2014, down from \$34,363 in 2013. That is, on average, a station within the top 100 markets charged advertisers \$33,292 to reach one percent of the television households within its DMA with a 30-second commercial. During the late newscasts (11 p.m. Eastern and Pacific Time; 10 p.m., Central and Mountain Time), on average, stations charge lower prices. In 2014 and 2013, on average, the CPPs for a 30-second advertisement during this time slot were \$18,087 and \$17,950, respectively.<sup>315</sup> Advertisers assess the relative expense and efficiency of delivering a message via different media, *e.g.*, a broadcast network compared with a group of broadcast television stations, on the basis of cost per thousand households (CPM).<sup>316</sup> Table 13 includes CPM figures to provide another basis for comparing prices charged to advertisers.

**Table III.B.2**  
**Top 100 Television Markets: Average Price of a 30-Second Commercial**<sup>317</sup>

Year	Prime Time		Late News	
	CPP	CPM	CPP	CPM
2013	\$34,363	\$34.83	\$17,950	\$18.19
2014	\$33,292	\$33.85	\$18,087	\$18.39

**b. Non-Price Rivalry**

106. Broadcast stations compete with each other for viewers and advertisers on two major non-price criteria: (1) programming<sup>318</sup> and (2) the type of viewing experience.<sup>319</sup> Each of these items is described below in turn.

<sup>313</sup> See The Museum of Broadcast Communications, Cost-Per-Thousand (CPM) and Cost-Per-Point (CPP), <http://www.museum.tv/eotvsection.php?entrycode=cost-per-thou> (last visited June 23, 2014); Vogel at 290-91, 574-75. For example, if 100,000 households in a DMA own television sets, and 20,000 of those households are tuned to a particular broadcast television station, then a station's rating is 20. If it charges \$25,000 per point during a particular program, then it can earn \$500,000.

<sup>314</sup> TV Cost & CPM Trends.

<sup>315</sup> Other non-advertising sources of revenue for broadcast television stations include retransmission consent fees, network compensation, DTV revenue, online revenue, and mobile revenue. These sources of revenue are discussed further at *infra*, Section III.B.4.b.

<sup>316</sup> Vogel at 292.

<sup>317</sup> See TV Cost & CPM Trends (last visited December 7, 2015) (citing SQUAD Media Market Guide 1<sup>st</sup> Quarter Projections (Fall books)).

<sup>318</sup> Nexstar 2014 Form 10-K at 10; Gray 2014 Form 10-K at 12; Sinclair 2014 Form 10-K at 23.

<sup>319</sup> Gray 2014 Form 10-K at 12; Nexstar 2014 Form 10-K at 10.

107. *Programming.* The largest point of differentiation among broadcast stations is the type of programming they offer and when such programming is offered. Consumers watch multiple broadcast stations and switch stations based on the type of programming carried. When choosing the type of programming to air, stations weigh the cost of acquiring programming, the number of viewers they can expect to attract, the amount of advertising they can sell, and the prices they can charge to advertisers.

108. Commercial stations also use multicast streams to offer consumers additional programming choices. For instance, multicast streams often carry newer networks such as Me-TV (with 161 digital multicast affiliates), This-TV (with 102 digital multicast affiliates), and Grit (with 96 digital multicasting affiliates).<sup>320</sup> In addition, multicasting enables stations in smaller markets to affiliate with multiple established networks. For example, The CW/The CW Plus (with 137 digital multicast outlets) and My Network TV (98 outlets) are examples of more established networks that enhance their program offerings through multicasting.<sup>321</sup>

109. Network affiliates typically market themselves based on their broadcast network affiliation and channel position (*e.g.*, FOX 5) and their on-air news talent. Programming from broadcast networks can attract large audiences, and broadcast networks provide their affiliates with entertainment programming and sporting events, such as the Olympics, National Football League (NFL) games, Major League Baseball (MLB) games, and the Academy Awards, that are extremely popular with both viewers and advertisers.<sup>322</sup> Networks also tend to schedule their most popular programming during the months of the year when Nielsen measures television audiences for all 210 DMAs (February, May, July, and November) to determine local advertising rates.<sup>323</sup> Section 105 of the STELAR removes the prohibition against deletion or repositioning of a local commercial television station during a period in which major television ratings services measure the size of audiences of local television stations.<sup>324</sup>

110. Local news programming is another source of product differentiation for broadcast television stations in their competition for advertisers and viewers.<sup>325</sup> This programming, which stations produce, is typically the largest source of their revenue, accounting for on average 48.6 percent of their net advertising revenue.<sup>326</sup> Some stations seek to increase their local advertising revenues in part by producing programming with local advertising appeal and sponsoring or co-promoting local events and activities.<sup>327</sup> To attract audiences, stations also strive to provide exclusive news stories, unique features

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<sup>320</sup> SNL Kagan, *TV Station Multi-Platform Report-Update* (May 2015).

<sup>321</sup> *Id.*

<sup>322</sup> Nexstar 2014 Form 10-K at 4; Sinclair 2014 Form 10-K at 13-14. The network affiliation agreements, generally exclusive for each of the 210 DMAs, provide affiliates with the right to air network programming first. The contracts may run from two to 10 or more years. The Commission's right-to-reject rule grants an affiliate the right to (1) reject or refuse network programs which the station reasonably believes to be unsatisfactory, unsuitable, or contrary to the public interest and (2) substitute a program which, in the station's opinion, is of greater local or national importance. 47 CFR § 73.658(e).

<sup>323</sup> While networks and stations consider May to be the most important measuring period of the year, they also compete intensely in February and November, when audiences are likely to stay at home. Vogel at 291. *See also* Nielsen Media Research, Glossary of Media Terms, Sweeps, <http://www.nielsenmedia.com/glossary/> (last visited October 15, 2015). Nielsen refers to these months as "sweeps months." Nielsen excludes the Honolulu, Fairbanks, and Juneau DMAs from its July measurement period.

<sup>324</sup> STELAR, § 105, 128 Stat. 2063.

<sup>325</sup> Sinclair 2014 Form 10-K at 11.

<sup>326</sup> Vogel at 304. *See 16th Report* 30 FCC Rcd at 3334 para. 181.

such as investigative reporting, and coverage of community events, and to secure broadcast rights to regional and local sporting events.<sup>328</sup> In 2014, the average television station aired just under 5.5 hours of local news per weekday, holding steady from 2013.<sup>329</sup>

111. Stations also air syndicated programming, including off-network programs (e.g., *The Andy Griffith Show* or *How I Met Your Mother*), first-run programs (e.g., *Jeopardy*, *Entertainment Tonight*, or *Wheel of Fortune*) and sporting events.<sup>330</sup> Competition for programming involves negotiating with national program distributors or syndicators that sell first-run and rerun packages of programming.<sup>331</sup> Stations compete against in-market broadcast stations for exclusive access to syndicated programming within their markets.<sup>332</sup> Syndicated programming can be expensive for stations and may represent a long-term financial commitment.<sup>333</sup> Stations usually purchase syndicated programming two to three years in advance and sometimes must make multi-year commitments.<sup>334</sup> An average broadcast station spends an estimated 22.4 percent of its expenses on acquiring syndicated programming.<sup>335</sup>

112. *Viewing Experience.* Several factors affect consumers' viewing experiences, including the availability of HD programming, the availability of content via a television station's website, and consumers' ability to view video on a time-shifted basis on television sets, personal computers, and/or mobile devices. As of 2014, 98.3 million U.S. television households, or 85 percent of such households, had sets capable of displaying and/or receiving digital signals, including HD television signals.<sup>336</sup> This

(Continued from previous page)

<sup>327</sup> See, e.g., Nexstar 2014 Form 10-K at 2. Nexstar states that they strive to increase the audience share of the stations by creating a strong local broadcasting presence based on highly rated local news, local sports coverage, and active community sponsorship. In 2014, Nexstar earned approximately 71.7 percent of its net advertising revenues from spots aired during local news programming. *Id.* at 49.

<sup>328</sup> *Id.* at 11; Gray 2014 Form 10-K at 13.

<sup>329</sup> Robert Papper, *Survey Shows that the amount of local TV news remains at Near-record highs: Research: tracking local news*, RTDNA (June 15, 2015), [http://www.rtdna.org/article/research\\_tracking\\_local\\_](http://www.rtdna.org/article/research_tracking_local_). While RTDNA/Hofstra released survey results in 2015, the survey was conducted during the fourth quarter of 2014. This survey presents the national average hours of news for all stations. A 2011 FCC staff analysis found, however, that 258 commercial and 262 noncommercial stations do no local news. See FCC, *The Information Needs of Communities*, July 2011, at 100, <http://www.fcc.gov/infoneedsreport>.

<sup>330</sup> See, e.g., Nexstar 2014 Form 10-K at 11, 10; Sinclair 2014 Form 10-K at 11; Gray 2014 Form 10-K at 13.

<sup>331</sup> Nexstar 2014 Form 10-K at 11.

<sup>332</sup> *Id.*; Gray 2014 Form 10-K 13. In addition, cable networks occasionally acquire programs that might otherwise be offered to stations. For example, Twentieth Century Fox TV and Twentieth TV negotiated the first cable syndication and VOD deal of *The Simpsons* to FXX for all past and future episodes, within the time period of the deal, for approximately \$750 million. Cynthia Littleton, *'The Simpsons' Lands \$750 Mil Cable Syndication, VOD Pact with FXX*, VARIETY, Nov. 15, 2013, <http://variety.com/2013/tv/news/the-simpsons-lands-750-mil-cable-vod-syndication-pact-with-fxx-1200837036/>.

<sup>333</sup> Syndicated programming can impose financial risks on stations. Broadcast stations cannot predict whether a particular show will be sufficiently popular to enable it to sell enough related advertising time to cover the costs of the program. A station may have to replace a poorly performing program before it has recovered the costs of obtaining it. Sinclair 2014 Form 10-K at 27; Gray 2014 Form 10-K at 24.

<sup>334</sup> Gray 2014 Form 10-K at 24.

<sup>335</sup> National Association of Broadcasters, *Television Financial Report*, at 3 (2015) (2015 NAB Television Financial Report).

<sup>336</sup> Nielsen, *March 2015 Universe Estimate Report* (Nielsen 2015 Universe Estimates).

figure is up from 94.7 million U.S. television households, or 81.8 percent of such households, in 2013.<sup>337</sup> Broadcasters have provided increasing amounts of HD programming in response to the increasing number of HD televisions. As of the end of 2014, 1,545 (87.0 percent) of full-power stations were broadcasting in HD, up from 1,517 stations at the end of 2013.<sup>338</sup>

113. Television stations use their online and mobile platforms to address consumers' increasing desire to view video programming in more places and times and on more devices. Broadcasters use their websites as extensions of their local brands, and offer advertisers online promotions coordinated with the on-air advertisements. SNL Kagan estimates that at the beginning of 2014 there were 147 live mobile DTV stations in 54 DMAs with 165 live mobile channels.<sup>339</sup> By the end of the year (December, 2014), these numbers were down slightly with 145 mobile DTV stations offering 160 live mobile channels.<sup>340</sup> Television stations are also taking a "three-screen approach" – distributing news programming online and via mobile devices, as well as over-the-air. While most stations with a three-screen approach were top-four network affiliates, the size of their DMAs did not appear to affect stations' decision in this regard. The Mobile 500 Alliance, a consortium of 50 member companies, including two public broadcasters, which hold licenses to 437 television stations, plans to launch 15 to 20 Mobile DTV channels in markets across the country.<sup>341</sup> Major broadcasters, through the standards organization Advanced Television Systems Committee (ATSC), are working to develop a new standard for digital broadcasting, which is expected among other things to improve mobile DTV reception.<sup>342</sup>

#### 4. Broadcast Television Station Operating and Financial Statistics

114. In this section of the Report, we examine broadcast stations' operating and financial statistics, including audience, revenue, and profitability, as well as investment and innovation. We also review the interplay between the trends in broadcasters' sources of revenues and expenses, their strategies for distributing video programming, and other factors influencing broadcasters' performance. While the majority of broadcast television station licensees are part of larger companies that are involved in other industries, Sinclair Broadcast Group, Inc., Tribune Media Co., TEGNA, Inc., Media General, Nexstar

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<sup>337</sup> Nielsen, *September 2013 National Media Related Universe Estimates*, Oct. 31, 2013, (Nielsen Sept. 2013 Universe Estimates). Figures apply to the television season at issue. MVPD households with HD television sets wishing to receive HD service must have HD service included in their subscriptions.

<sup>338</sup> 2014, SNL-Kagan TV Station Database; 2014 SNL Kagan TV Station Databook at 11; SNL Kagan, TV Station Deals Databook 2013 Edition, July 2013, at 10 (2013 SNL Kagan TV Stations Databook).

<sup>339</sup> 2014 SNL Kagan TV Stations Databook at 12.

<sup>340</sup> SNL Kagan Multiplatform Analysis 2014.

<sup>341</sup> Mobile 500 Alliance, *About*, <http://mobile500alliance.com/about-2> (last visited Apr. 15, 2016).

<sup>342</sup> Harry A. Jessell, *Mobile DTV is Dead, Long Live ATSC 3.0*, TV NewsCheck, Oct. 25, 2013, available at <http://www.tvnewscheck.com/article/71507/mobile-dtv-is-dead-long-live-atsc-30> (last visited Apr. 8, 2016). On April 26, 2016, the Commission solicited comment on a Petition for Rulemaking filed by CEA, NAB, APTS, and NAB asking the Commission to "amend its rules to allow broadcasters to use the signaling portion of the physical layer of the new ATSC 3.0 (Next Generation TV) broadcast standard, while they continue to deliver current-generation DTV broadcast service to their communities." See *Media Bureau Seeks Comment on Joint Petition for Rulemaking of America's Public Television Stations, The AWARN Alliance, The Consumer Technology Association, and The National Association of Broadcasters Seeking to Authorize Permissive Use of the "Next Generation TV" Broadcast Television Standard*, GN Docket No. 16-142, Public Notice (rel. Apr 26, 2016). Comments and Reply Comments are due on May 26, 2016 and June 27, 2016, respectively. See *id.*

Broadcasting Group, Inc., and Gray Television, Inc. focus almost exclusively on the broadcast television industry.<sup>343</sup>

**a. Audiences**

115. The industry relies on Nielsen data to measure broadcast television station audiences. Nielsen measures television ratings as a percentage of households with television sets who view a program.<sup>344</sup> Since the *16<sup>th</sup> Report*, both television penetration and the total number of television households have held steady.<sup>345</sup> For the 2014-2015 season, Nielsen reports television penetration at approximately 96 percent for both the 2014-15 and 2013-14 season, while the total number of U.S. television households grew slightly from about 115.8 to about 116.4 million over this period.<sup>346</sup>

116. The percentage of television households relying exclusively on over-the-air broadcast service (as opposed to accessing broadcast stations via an MVPD) has increased since the last report. According to Nielsen, as of November 2014, approximately 9.9 percent of all U.S. television households, or about 11.4 million households, were broadcast-only.<sup>347</sup> This is an increase since January 2014, when there were 11.2 million broadcast-only households, representing 9.8 percent of all television households.<sup>348</sup> NAB provides a slightly different statistic, stating that 21.0 percent U.S. television households, or 25.1 million households, have at least one set that is not connected to an MVPD service and that relies on broadcast reception.<sup>349</sup> According to NAB, this figure is up from 19.3 percent of households in the previous year.<sup>350</sup> NAB states further that over-the-air reliance is higher among lower income households and racial/ethnic minorities, and homes headed by younger adults.<sup>351</sup>

117. Viewing shares of broadcast network affiliates and non-commercial broadcast television stations were mixed between the 2012-2013 and 2013-2014 television seasons. As shown in Table III.B.3, the total day share of viewing for broadcast network affiliates increased from 27 percent in the 2012-2013 television season to 29 percent in the 2013-2014 television season.<sup>352</sup> During prime time,<sup>353</sup> their share rose from 31 percent in the 2012-2013 season to 32 percent in the 2013-2014 television seasons. Viewing shares of independent stations, which are relatively low, had a total share of three

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<sup>343</sup> SNL Kagan TV Pure Plays (June 30, 2015). In addition to television properties, Tribune is the licensee of WGN(AM), Chicago, IL.

<sup>344</sup> Nielsen, News & Insights: Top Tens & Trends, Television, <http://www.nielsen.com/us/en/insights/top10s/television.html> (last visited Nov. 13, 2012).

<sup>345</sup> See *16th Report* 30 FCC Rcd at 3339, para. 192.

<sup>346</sup> Compare Nielsen 2014 Universe Estimates with Nielsen 2013 Universe Estimates.

<sup>347</sup> Nielsen 2015 Universe Estimates.

<sup>348</sup> *Id.*

<sup>349</sup> NAB Comments at 2-3.

<sup>350</sup> *Id.* at 2-3.

<sup>351</sup> *Id.* at 3.

<sup>352</sup> Nielsen 2012 Television Audience Report at 15 & Nielsen 2013 Television Audience Report at 15. Total day viewing includes viewing Monday-Sunday, 6 a.m.-6 p.m. A share is the percentage of television households watching television who are watching a particular programming source. Due to simultaneous multiple-set viewing, Nielsen reports audience shares that exceed 100 percent when totaled. We have normalized the audience shares by recalculating them on a base (or denominator) equaling 100 percent and adjusting the numerators accordingly.

<sup>353</sup> Monday-Saturday, 8-11 p.m. Eastern and Pacific Time (7-10 p.m. Central and Mountain Time), Sunday 7-11 p.m. Eastern and Pacific Time (6-10 p.m. Central and Mountain Time).

percent in both the 2012-2013 season and 2013-2014 season. During prime time, their share increased from two percent in the 2012-2013 season to three percent during the 2013-2014 season. The combined viewing shares of advertising-supported cable networks decreased in total day shares and prime time during this period.

**Table III.B.3**  
**Audience Shares (percent of television households)<sup>354</sup>**

Viewing Source:	Total Day			Prime Time		
	2011-2012	2012-2013	2013-2014	2011-2012	2012-2013	2013-2014
Network Affiliates	28	27	29	33	31	32
Independents	3	3	3	3	2	3
Non-Commercial Networks	2	2	1	2	2	2
Ad Supported Cable	52	54	51	51	52	51
Premium Pay Networks	4	4	4	3	3	4
All Other Cable Networks	6	5	6	4	4	5
All Other Tuning	5	5	6	4	5	5
<b>Total:</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

#### b. Revenue

118. This section of the Report describes broadcast television stations' revenue during the relevant period, including revenue from station advertising, retransmission consent fees, online activities, and other revenues. Because of its dependence on advertising revenue, which is highly correlated with overall economic conditions, broadcasting is a highly cyclical industry.<sup>355</sup> This is in part because marketers often reduce their advertising budgets during economic recessions or downturns.<sup>356</sup> In addition, some categories of advertisers, especially the automobile sector, are responsible for a large proportion of stations' advertising revenues. Automobile dealers can account for 25 percent of a typical television station's net revenues in good economic times.<sup>357</sup> While the automobile sector's share of station groups' advertising fell in recent years, overall these revenues appear to be rebounding somewhat.<sup>358</sup> Station revenues tend to be higher in even years, due to political advertising, which tends to peak immediately before elections.<sup>359</sup> In the short run, most of a station's operating costs are fixed.<sup>360</sup> Regardless of the amount of advertising inventory it sells, a station must pay for the cost of operating its facilities as well as the costs of programming rights. Therefore, when economic conditions are favorable and a station is able

<sup>354</sup> Nielsen 2013 Television Audience Report at 15, Nielsen Viewing Trends May 2015 at 8. Figures apply to the television season at issue. Due to rounding, the primetime total for 2012-2013 does not equal 100 percent.

<sup>355</sup> Vogel at 301-03; Gray 2014 Form 10-K at 21; Sinclair 2014 Form 10-K at 25.

<sup>356</sup> See Nexstar 2014 Form 10-K at 24.

<sup>357</sup> Vogel at 309.

<sup>358</sup> See Gray 2014 Form 10-K at 7 ("For the years ended December 31, 2014..., we derived approximately 21% . . . of our total broadcast advertising revenue (minus agency commissions) from customers in the automotive industry").

<sup>359</sup> Nexstar 2014 Form 10-K at 10; Gray 2014 Form 10-K at 7.

<sup>360</sup> Vogel at 304.

to charge high prices for its commercial inventory, it can be profitable. Conversely, because stations remain highly dependent on advertising revenues, when such revenues decline, aside from laying off employees and reducing sales commissions, stations usually are unable to reduce expenses, and thus profits can decline sharply. Other sources of station revenue include retransmission consent fees, ancillary DTV services, and online advertising.

119. Industry gross revenues were approximately \$24.2 billion in 2013, but were reported to rise to \$27.2 billion in 2014.<sup>361</sup>

**Table III.B.4**  
**Broadcast Television Station Industry Gross Revenue Trends (in millions)<sup>362</sup>**

Revenue Source	2012		2013		2014	
	Revenue	Percentage	Revenue	Percentage	Revenue	Percentage
Advertising	\$20,838	85	\$19,379	79	\$20,678	76
Network Compensation	\$<1	<1	<\$1	<1	<\$1	<1
Retransmission Consent	\$2,407	10	\$3,619	15	\$4,881	18
Online	\$1,375	5	\$1,485	6	\$1,692	6
<b>Total</b>	<b>\$24,619</b>	<b>100</b>	<b>\$24,297</b>	<b>100</b>	<b>\$27,251</b>	<b>100</b>
<b>Percentage Change</b>	<b>14%</b>		<b>(2%)</b>		<b>12%</b>	

120. *Advertising Revenue.* On-air advertising is by far the most significant source of revenue for television stations, although its share of overall broadcast television station industry revenues is declining. It represented about 79 percent of broadcast television station gross industry revenues in 2013 and 76 percent of gross industry revenues in 2014.<sup>363</sup>

121. Broadcast television stations sell two categories of advertising: local spot and national spot. Local advertisers purchase local spot advertising to reach viewers within a station's market. They may work with local advertising agencies or directly with a station's sales staff.<sup>364</sup> Local advertising is more sensitive to the economic climate of a station's geographic area. For example, even if a station is attracting large audiences, if the local economy is struggling, local businesses may choose not to advertise or to limit their advertising.<sup>365</sup> NAB estimates that, in 2014, on average, about 58.4 percent of a station's gross advertising revenues were from local advertising, a decrease from the 63.7 percent of revenues in 2013.<sup>366</sup> The percentages may vary depending on the station and the market it serves. Local advertisers may choose to advertise using local broadcast television or radio stations, newspapers, regional cable

<sup>361</sup> 2015 SNL Kagan TV Revenues.

<sup>362</sup> *Id.*

<sup>363</sup> *Id.*

<sup>364</sup> Nexstar 2014 Form 10-K at 42.

<sup>365</sup> See *16th Report*, 30 FCC Rcd at 3338, para. 189.

<sup>366</sup> 2015 NAB Television Financial Report at iv; National Association of Broadcasters, *2014 Television Financial Report*, 2014, at 2 (*2014 NAB Television Financial Report*). Some broadcast station groups cite lower percentages. Nexstar states that local advertising, excluding political, represented 51.0 percent of its stations' gross revenues (that is, revenues before subtracting agency commissions) in 2013 and 42.3 percent in 2014. Nexstar 2014 Form 10-K at 44. Gray's percentages were similar: 58.6 percent in 2013 and 65 percent for 2014. Gray 2014 Form 10-K at 37.

networks, geographically targeted websites, or other local media. Between 2013 and 2014, broadcast stations' share of local advertising revenue increased to 16.3 percent from 15.2 percent. Total advertising spending across all local media rose from \$71.3 billion nationwide to \$75.0 billion, and broadcast television stations' collective local advertising revenues rose from \$10.9 billion to \$12.2 billion.

**Table III.B.5**  
**Local Advertising Gross Revenue by Sector (in millions)**<sup>367</sup>

Revenue Source	2012		2013		2014	
	Revenue	Percentage	Revenue	Percentage	Revenue	Percentage
Broadcast Television Stations	\$11,674	16.4%	\$10,856	15.2%	\$12,214	16.3%
Cable Television	\$4,990	7.0%	\$4,999	7.0%	\$5,544	7.4%
Radio	\$11,391	16.0%	\$11,437	16.0%	\$11,574	15.4%
Internet	\$13,098	18.4%	\$13,832	19.4%	\$14,403	19.2%
Daily Newspaper	\$15,610	22.0%	\$14,909	20.9%	\$14,440	19.2%
Regional Sports Networks	\$933	1.3%	\$1,051	1.5%	\$1,171	1.6%
Mobile	\$1,596	2.2%	\$3,058	4.3%	\$4,632	6.2%
Telco	\$324	0.5%	\$419	0.6%	\$598	0.8%
Other	\$11,386	16.0%	\$10,704	15.0%	\$10,224	13.6%
<b>Total</b>	<b>\$71,002</b>	<b>100</b>	<b>\$71,264</b>	<b>100</b>	<b>\$75,099</b>	<b>100</b>

122. In its television financial reports, NAB estimates that gross revenue from national and regional advertising represented about 30 percent, or \$6.1 billion, of industry revenue in 2014, down from 34.6 percent, or \$6.4 billion, in 2013.<sup>368</sup> National advertisers may choose to advertise on broadcast stations but are more likely to utilize arrangements with broadcast networks, cable networks, television syndicators, or DBS. National sales tend to represent a larger proportion of revenues for stations in larger markets.<sup>369</sup> Broadcast television stations' share of the national advertising market was 5.7 percent in 2013 and was projected to be 5.9 percent in 2014. In the last report, we reported that cable networks and VOD surpassed broadcast television networks in their share of overall national advertising revenue in 2008. This trend continued in 2013 and 2014, with the gap between broadcast television networks and cable networks and VOD increasing slightly. In 2013, broadcast television networks accounted for 12.0 percent of national advertising gross revenues and cable networks and VOD accounted for 18.5 percent of national advertising revenues.<sup>370</sup> In 2014, those figures were projected to be 11.8 percent and 19.0

<sup>367</sup> SNL Kagan, *U.S. Advertising Market Overview, 2003-2022*, Dec. 18, 2013.

<sup>368</sup> *2015 NAB Television Financial Report* at 2; *2014 NAB Television Financial Report* at 2.

<sup>369</sup> Vogel at 312-13, n. 7. Sinclair states that it has focused on increasing local advertising revenue as a percentage of total advertising revenues, as overall spending by national advertisers has declined, and other outlets have merged. Sinclair 2014 Form 10-K at 42.

<sup>370</sup> SNL Kagan, *U.S. Local versus National Advertising Revenue 2013-2022*.

percent, respectively.<sup>371</sup> It should be noted that some media may be closer substitutes for television advertising than others.

**Table III.B.6**  
**National Advertising Gross Revenue by Sector (in millions)<sup>372</sup>**

Revenue Source	2012		2013		2014	
	Revenue	Percentage	Revenue	Percentage	Revenue	Percentage
Broadcast Television Stations	\$9,164	6.1%	\$8,523	5.7%	\$9,375	5.9%
Broadcast Networks	\$18,563	12.5%	\$17,862	12.0%	\$18,744	11.8%
Cable & VOD Networks	\$25,617	17.2%	\$27,567	18.5%	\$30,248	19.0%
DBS	\$1,067	0.7%	\$1,143	0.8%	\$1,274	0.8%
Internet	\$19,956	13.4%	\$21,576	14.5%	\$23,116	14.6%
Radio	\$2,814	1.9%	\$2,834	1.9%	\$2,862	1.8%
Satellite Radio	\$97	0.1%	\$105	0.1%	\$110	0.1%
Radio Network	\$1,181	0.8%	\$1,199	0.8%	\$1,228	0.8%
Daily Newspaper	\$3,335	2.2%	\$3,118	2.1%	\$2,976	1.9%
Barter Syndication	\$3,022	2.0%	\$3,085	2.1%	\$3,148	2.0%
Mobile	\$2,379	1.6%	\$4,261	2.9%	\$6,054	3.8%
Other	\$63,044	42.3%	\$62,019	41.7%	\$58,868	37.1%
<b>Total</b>	<b>\$149,088</b>	<b>100</b>	<b>\$148,844</b>	<b>100</b>	<b>\$158,803</b>	<b>100</b>

123. Political advertising can be both local and national.<sup>373</sup> For example, a mayoral candidate may need to purchase advertising in only one DMA in order to reach potential voters, in which case the advertising is local.<sup>374</sup> Candidates running for statewide offices, however, or presidential candidates seeking to reach audiences in swing states, will frequently purchase time within multiple DMAs covering the particular state, in which case a national rep firm may purchase time on behalf of the candidates. Political advertising revenue reached \$2.4 billion in 2014.<sup>375</sup> NAB reports that, for an average station, political advertising increased from 1.7 percent in 2013 to 11.6 percent of gross revenues in 2014.<sup>376</sup>

124. *Retransmission Consent Fees.* Like cable networks, broadcast stations electing retransmission consent negotiate per-subscriber retransmission consent fees from MVPDs in exchange for carriage rights. Local broadcasters do not retain all of this revenue, however. Instead, television stations

<sup>371</sup> *Id.*

<sup>372</sup> SNL Kagan, *U.S. Local versus National Advertising Revenue 2013-2022*.

<sup>373</sup> *See, e.g.,* Sinclair 2014 Form 10-K at 42.

<sup>374</sup> Kate Brady, Political Ads: Final Tips From the Rep, TVNEWSCHECK, Oct. 1, 2010, <http://www.tvnewscheck.com/article/2010/10/01/45773/political-ads-final-tips-from-the-rep>.

<sup>375</sup> 2014 NAB Television Financial Report at 2

<sup>376</sup> *Id.*; 2014 NAB Television Financial Report at 2. As noted above, station revenues from political advertising tend to be higher in even-numbered years due to election cycles. *See supra*, para. 123.

typically share a portion of such fees with their network partners; this is referred to as “reverse compensation.”<sup>377</sup>

125. Since the last report, retransmission consent fees have increased in dollar terms and as a share of industry revenues. SNL Kagan reports in 2015, retransmission consent fees represented about 18.0 percent of total television revenue, or \$4.8 billion in 2014 up from 15.0 percent, or \$3.6 billion in 2013.<sup>378</sup> While numerous commenters in this proceeding have noted that retransmission consent fees continue to rise and have become a significant part of television station’s overall revenue picture,<sup>379</sup> SNL Kagan projects that that the rate of increase for retransmission consent fees will decline over the next several years.<sup>380</sup>

126. Large station groups and station groups that are affiliated with cable networks may have more leverage than other station owners, because they can combine retransmission consent for multiple stations or integrate retransmission consent negotiations with negotiations for carriage of their cable networks.<sup>381</sup> Group owners may be able to earn more than individual station owners, because they have more experience and leverage with MVPDs.<sup>382</sup> Stations in smaller markets may not earn as much in total dollars from retransmission consent fees because there are not as many subscribers, but they may earn the same per-subscriber fees as stations in larger markets.<sup>383</sup>

127. *Online Revenues.* In addition to selling advertising time during their programming, stations often sell advertising on their websites. SNL Kagan estimates that online revenues represented about \$1.5 billion, or six percent, of the \$24.2 billion in the total broadcast station industry gross revenues in 2013, and \$1.6 billion, or 6.1 percent, of the \$27.2 billion in total broadcast television station industry revenues in 2014.<sup>384</sup> Other sources have slightly higher or lower estimates. NAB estimates that online revenue increased from \$606,626 in 2013 to \$738,889, or 3.4 percent of an average station’s \$22 million in net revenues, in 2014.<sup>385</sup>

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<sup>377</sup> See *16th Report* 30 FCC Rcd at 3345, para. 203.

<sup>378</sup> SNL Kagan states that Station retransmission consent revenues rose nearly 40 percent in Q4 and FY 2014. SNL Kagan, *Broadcast Investor: Deals & Finance* (Mar. 31, 2015). For Nexstar, retransmission consent revenues (consisting of a per-subscriber-based compensatory fee and excluding advertising revenue) represented 15.4 percent of net revenues in 2012 and 19.4 percent in 2013. Nexstar 2013 Form 10-K at 44. Nexstar explains that the increases are due to the incremental revenue from new stations, net of station disposal, and contracts with higher rates per subscriber on their legacy stations. Similarly, Gray’s retransmission consent revenues increased due to increased rates, representing 8.3 percent in 2012 and 11.5 percent in 2013. Gray 2014 Form 10-K at 39. Sinclair does not break out retransmission consent revenues separately. See Sinclair 2014 Form 10-K at 42.

<sup>379</sup> See, e.g., Verizon Comments at 1-2 AT&T Comments at 2; CenturyLink Comments at 3; WTA Comments at 3.

<sup>380</sup> SNL Kagan, *Broadcast Retransmission Fees vs. Basic Cable and RSN Programming Fees* (June 2015).

<sup>381</sup> See *16th Report* 30 FCC Rcd at 3346, para. 203. In September 2015, the Commission requested comment on the issue of joint retransmission consent negotiations by broadcast stations, as well as other issues related to retransmission consent negotiations. See generally *Totality of the Circumstances NPRM*, 30 FCC Rcd 10327.

<sup>382</sup> See *16th Report*, 30 FCC Rcd at 3346, para. 203.

<sup>383</sup> See *id.*

<sup>384</sup> See *supra*, Table III.B.6.

<sup>385</sup> *2015 NAB Television Financial Report* at 2; *2014 NAB Television Financial Report* at 2. NAB calculates online revenue as a percentage of a broadcast station’s net revenue (*i.e.*, the amount spent by advertisers on a station (gross advertising revenues) – advertising agency commission – national and regional sales rep firm commission = all other sources of station revenue).

128. *Other Revenues.* Advertising revenues from mobile services and applications are still nascent for most stations. NAB estimates that mobile revenues increased from \$53,134 in 2013 to \$66,217, about 0.3 percent of an average station's total \$22 million in net revenues in 2014.<sup>386</sup> NAB estimates that in 2014 advertising revenues from multicast channels represented 0.8 percent of an average station's total net revenues, unchanged from 2013 figures.<sup>387</sup>

129. DTV technology allows broadcasters to use part of their licensed digital spectrum to provide non-broadcast "ancillary or supplementary" services (*e.g.*, subscription video, data transfer, or audio signals), provided they pay the Commission a five percent fee of gross revenues received from such services.<sup>388</sup> Compared with other revenue sources, ancillary services remain an insignificant portion of total station revenue. Total revenues from these services were approximately \$150,000 in 2013 and \$280,000 in 2014.

## C. Online Video Distributors

### 1. Introduction

130. This section of the Report examines the providers, business models, competitive strategies, and operating and financial statistics of selected OVDs. In contrast to a traditional MVPD, whose service area typically is tied to the provider's own facilities-based infrastructure,<sup>389</sup> or a broadcaster, whose service area typically is defined by the station's signal coverage area and DMA, an OVD's geographic service area potentially covers all regions capable of receiving high-speed Internet service. Consumers can access online video via multiple Internet-enabled devices, including computers, smartphones, tablets, gaming consoles, television sets, and other equipment.

131. We examine entities that offer video content akin to the professional programming traditionally offered by broadcast stations, or broadcast and cable networks, and which is usually created or produced by media and entertainment companies using professional-grade equipment, talent, and production crews that hold or maintain the rights for distribution. We distinguish professionally produced content from both (1) semi-professionally produced video, which refers to consumer or user-generated content that has professional or industrial qualities (*e.g.*, shot with professional-grade equipment, using professional talent), and which may be produced exclusively for online audiences; and (2) user-generated content that is publicly available and created or produced by end users, often with little to no brand equity or brand recognition.<sup>390</sup>

132. The Commission has observed that, regardless of whether online video currently is a complement to or a substitute for MVPD service, it is at least potentially a substitute product.<sup>391</sup> As noted

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<sup>386</sup> 2015 NAB Television Financial Report at 2; 2014 NAB Television Financial Report at 2. NAB defines mobile revenue as any revenue derived directly from streaming to mobile devices. *Id.* at 164.

<sup>387</sup> *Id.* at 2. To calculate total net revenues, NAB subtracts agency and rep firm commission for gross advertising revenues, and adds all other forms of revenue.

<sup>388</sup> Filing of FCC Annual DTV Ancillary/ Supplementary Services Report, Public Notice, 18 FCC Rcd 23972, 23973 (MB 2003); 47 U.S.C. § 336(a)(2), (e).

<sup>389</sup> As discussed below, the Commission has issued a Notice of Proposed Rulemaking seeking comment on whether the statutory definition of MVPD includes certain Internet-based distributors of video programming. *See infra*, para. 150.

<sup>390</sup> *See, e.g., Comcast-NBCU Order*, 26 FCC Rcd at 4298-99, paras. 144-46 & n. 365; Letter from William T. Lake, Chief, Media Bureau, to Michael H. Hammer, Counsel, Comcast Corporation, *et al.*, MB Docket No. 10-56, Attach. at 3-6, 8-9, 14 (May 21, 2010).

<sup>391</sup> *See, e.g., Comcast-NBCU Order*, 26 FCC Rcd at 4256, para. 41; *AT&T and DIRECTV MO&O*, 30 FCC Rcd at 9159-60, para. 68.

in the MVPD section of this Report, individual consumers seeking to view specific video programs may perceive OVDs as a substitute, a supplement, or a complement to their MVPD video service.<sup>392</sup> When the same program is offered by both an OVD and an MVPD, an OVD may be perceived as a substitute. When a program is available from an OVD but not from an MVPD, the OVD may be perceived as a supplement. When the current season of a television series is available only from an MVPD but past seasons are available from an OVD, the OVD may be perceived as a complement. Commenters submit that OVDs contribute to competition in the delivery of video programming to varying degrees.<sup>393</sup>

## 2. OVD Providers

133. We begin our consideration of OVDs with an examination of the major players in today's OVD marketplace.<sup>394</sup> We then consider horizontal concentration and vertical integration in the marketplace. Next, we describe conditions affecting market entry and rivalry, including an overview of existing regulations and marketplace conditions that might influence entry decisions and rivalry. Finally, we describe recent entry into and exit from the OVD marketplace.

134. Our discussion of providers is organized according to the types of services offered.<sup>395</sup> As NCTA notes, OVD business models range from "all-you-can-eat" video streaming options and subscriptions to more traditional single-item "a la carte" video rentals.<sup>396</sup> The types of services generally correspond to the traditional movie and television distribution windows.<sup>397</sup> For feature movies, following their initial release in the theaters, subsequent distribution typically is on DVDs, on-demand, pay television services (e.g., HBO and Showtime), broadcast networks, and cable television networks, with content owners determining the timing of release and the extent of exclusive distribution rights.<sup>398</sup> For television programming, production companies have traditionally adhered to prescribed time gaps between initial broadcast and cable distribution of a service, release on DVDs, and syndication.<sup>399</sup> Every

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<sup>392</sup> See *supra*, para. 68.

<sup>393</sup> See, e.g., Comcast Comments at 5 (OVDs "are established players that have transformed the marketplace, prompting competitive responses from all industry players, including other OVDs, programming networks, device manufacturers, and MVPDs."); Netflix Comments at 3 (OVDs "has encouraged competition and innovation among traditional distribution models."); AT&T Comments at 6-12; NCTA comments at 10 (competition between OVDs and other video programming distributors and networks has allowed more choice for consumers, and has changed how programming is packaged and delivered).

<sup>394</sup> Due to the large number of OVDs, a comprehensive review of all of them is beyond the scope of this Report. For example, for its *Q2 2015 Digital Video Benchmark Report*, Adobe analyzed more than 300 sites and apps that act as an access point to TV Everywhere. Adobe Systems Inc., *Digital Video Benchmark: Adobe Digital Index Q2 2015*, [https://www.cmo.com/content/dam/CMO\\_Other/ADI/Video\\_Benchmark\\_q2\\_2015/ADI\\_Digital\\_Video\\_Report\\_Q2\\_2015.pdf](https://www.cmo.com/content/dam/CMO_Other/ADI/Video_Benchmark_q2_2015/ADI_Digital_Video_Report_Q2_2015.pdf) (last visited Dec. 14, 2015).

<sup>395</sup> Previously, we organized our discussion of OVDs by type of ownership. See e.g., *16<sup>th</sup> Report*, 30 FCC Rcd at 3353, para. 217. We describe the business models and competitive strategies corresponding to these groupings in detail later in this Report. See *infra*, Section III.C.3.

<sup>396</sup> See e.g., *16<sup>th</sup> Report*, 30 FCC Rcd at 3353, para. 217.

<sup>397</sup> The term "distribution windows" refers to the sequential release of movies and television programming via the various means of program delivery and the timing of such release. See e.g., *id.* at 3353-3354, para. 217.

<sup>398</sup> *Id.* See also *Notice*, 29 FCC Rcd 1617 n. 98.

<sup>399</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3354, para. 217.

major broadcast network, besides NBC, increased the amount of online offerings of their ad-supported prime-time programming on their owned-and-operated sites between 2014 and 2015.<sup>400</sup>

135. *Electronic Sell Through (EST) and Rental OVDs.* EST and rental OVDs are generally the same entities. EST services charge consumers a one-time fee to download a television show, movie, or other media to be stored locally on a hard drive or remotely via a cloud storage service.<sup>401</sup> The distribution window is similar to that of DVD and Blu-ray sales.<sup>402</sup> Rental OVD services charge consumers a one-time fee to view movies within a limited time period, usually within 30 days after consumers make a payment, and then allow consumers to watch the movie multiple times within a set time period (typically 24 to 48 hours) once viewing begins.<sup>403</sup> In contrast to other types of OVD services, which offer both television programs and movies, the rental OVD market is focused solely on films.<sup>404</sup> The distribution window is similar to MVPDs' pay-per-view VOD window and the traditional retail DVD and Blu-ray rental window.<sup>405</sup> Some current EST OVDs are discussed below.<sup>406</sup>

- CinemaNow Inc., owned by Best Buy, allows users to access content via a variety of devices, including tablets, Blu-ray players, game consoles, and Internet-enabled televisions.
- Vudu, Inc., owned by Wal-Mart, sells and rents movies via an Internet-connected set top box. Consumers can view this content on their television sets. Since the last report, Vudu announced the beginning of Disney Movies Anywhere, which allows customers access to Disney, Pixar, and Marvel movies at any time.<sup>407</sup>
- Apple's iTunes service carries movies and television programs from most studios, but Apple prevents much of the content it sells from being viewed on non-Apple devices.<sup>408</sup>
- Amazon.com (Amazon), through a service on its Amazon.com website called Amazon Instant Video, offers movie and television shows for sale and rent on a variety of devices. It includes television programs and movies in high definition.
- Sony's Video Unlimited 4K EST/rental service offers movies and television programs in 4K Ultra HD format on Sony's 4K Ultra HD Media Player and televisions.
- Google's Android TV allows consumers to view television programs and movies on Internet-enabled television sets, Blu-ray players, and set-top boxes. Google's cloud-based entertainment store, Google Play, offers television programs and movies for purchase and is compatible with smartphones and tablets using Google's Android operating system. Google's Chromecast streaming device allows viewers to project online video from smartphones, laptops, and tablets onto their television sets.

<sup>400</sup> Seth Shafer, *FOX Surged Ahead As Broadcast Net OTT Libraries Expand*, SNL Kagan, Feb. 3, 2016. Online episode libraries increased between 10.6 percent to 119.3 percent between the end of 2014 to the end of 2015. NBC and The CW are the only networks that have not made authentication a requirement for the majority of content.

<sup>401</sup> See e.g., *16<sup>th</sup> Report*, 30 FCC Rcd at 3354, para. 218.

<sup>402</sup> *Id.*

<sup>403</sup> *Id.*

<sup>404</sup> *Id.*

<sup>405</sup> *Id.*

<sup>406</sup> Many of these OVDs are discussed in more detail in the *16<sup>th</sup> Report*. See *id.* at 3354-3359, paras. 219-228.

<sup>407</sup> Vudu, *Disney Movies Anywhere Now Works with VUDU* (blog post), Nov. 17, 2014.

<sup>408</sup> SNL Kagan, *The State of Online Video Delivery*, 2015 Edition, at 13 (*2015 State of Online Video Delivery*).

- Additional studios and retailers with EST and online rental services include:
  - Warner Brothers Home Entertainment Group’s Flixster service, which offers movies for electronic sale and rental;
  - the M-Go movie and TV EST and rental service, which is jointly owned by DreamWorks Animation SKG and Technicolor;
  - Disney Studios’ Disney Movies Anywhere movie EST service; and
  - paramountmovies.com, which allows consumers to purchase or rent Paramount Pictures movies for viewing on several different devices.

136. *Subscription.* Subscription services give consumers a right to watch a range of programs and movies in exchange for a monthly fee.<sup>409</sup> Netflix streams movies, television programs, and original series to its subscribers.<sup>410</sup> Since the last report, Netflix has released over 20 new original programs including the period drama *Marco Polo*, the thriller *Bloodline*, the comedies *Unbreakable Kimmy Schmidt*, *Wet Hot American Summer: First Day of Camp*, and *Master of None*, the sci-fi drama *Sense8*, and the crime drama *Narcos*.<sup>411</sup> In 2015, Netflix secured 34 Emmy nominations for its original programming, just behind the 41 nominations received by both NBC and CBS and FX’s 38 nominations.<sup>412</sup> Netflix also offers a “Netflix for Kids” section, for children to browse television programs, movies, and original content tailored for them.<sup>413</sup>

137. Hulu, a joint venture co-owned by NBCUniversal, 21st Century Fox, Inc., and the Walt Disney Company, offers both a free, advertising-supported service (Hulu.com) and a subscription service (Hulu Plus), which includes fewer advertisements.<sup>414</sup> In 2015, Hulu announced the launch of an ad-free tier of the Hulu Plus subscription, available for an additional cost.<sup>415</sup> Programming is available on Hulu Plus the day after it originally airs on broadcast or cable networks, similar to MVPDs’ video on demand services. While Hulu Plus offers some children’s programming, it primarily focuses on broadcast and cable network prime time television programs.<sup>416</sup> In 2015, Hulu reached an agreement for the entire *Seinfeld* series and released a number of original programs,<sup>417</sup> including *The Mindy Project*, which had been canceled in the spring of 2015 by Fox.<sup>418</sup> Amazon provides its customers who pay for the

<sup>409</sup> *Id.* at 8.

<sup>410</sup> While Netflix continues to offer DVD by mail service, online streaming is now the company’s primary service offering. Netflix Inc., *SEC Form 10-K for the Year Ended December 31, 2014*, at 1 (Netflix 2014 Form 10K).

<sup>411</sup> Netflix Media Center, *Netflix Originals Premiere Dates*, <https://pr.netflix.com/WebClient/loginPageSalesNetWorksAction.do?contentGroupId=10571> (last visited Jan. 20, 2016).

<sup>412</sup> Mike Reynolds, *Netflix, Amazon stream up 46 Emmy Nominations*, SNL Kagan, July 16, 2015.

<sup>413</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3360, para. 229.

<sup>414</sup> Hulu, *About Us*, <http://www.hulu.com/about> (last visited Oct. 19, 2015).

<sup>415</sup> Erin Griffith, *Hulu goes ad-free for \$11.99 per month*, FORTUNE, Sept. 2, 2015.

<sup>416</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3360, para. 231.

<sup>417</sup> Hulu original programs include *The Awesomes*, *Casual*, *Difficult People*, and *The Path*. Exstreamist, *List of Hulu Original Series and Season Premiere Dates*, <http://exstreamist.com/list-of-hulu-original-series-and-season-premiere-dates/> (last visited Feb. 24, 2016).

<sup>418</sup> *2015 State of Online Video Delivery* at 5. Some Hulu original series include *Casual*, *Difficult People*, *East Los High*, and *The Path*. Hulu Press, *Originals*, <http://www.hulu.com/press/shows> (last visited Jan. 20, 2016. Beginning (continued....))

company's Amazon Prime service with free access to commercial-free, instant streaming of thousands of movies and television shows.<sup>419</sup> Amazon initiated its third season of original programming in January 2015, posting seven pilots online in an effort to get viewer feedback before selecting which series to commission.<sup>420</sup> In 2015, Amazon Prime was nominated for 12 Emmy awards for the series *Transparent* and *Bosch*.<sup>421</sup> In addition, Amazon is the first exclusive subscription OVD service distributing select HBO programs and movies.<sup>422</sup>

138. While most of the videos available on Google's YouTube website are free to consumers, the website now also offers paid channels for children's programming, movies, music, and other genres.<sup>423</sup> These subscription channels provide video content creators, such as major media companies and start-ups, an additional source of revenue.<sup>424</sup> The channel subscriptions provide libraries of videos on-demand, functioning similarly to the free channels on YouTube.<sup>425</sup> As of October 2014, channel prices ranged from \$0.99 to \$9.99 per month.<sup>426</sup>

139. Warner Archive Instant offers classic Warner Brothers films, dating back to the 1920s, as well as older television programs, many of which are unavailable on other online video subscription services. The service offers the programming, much of which is unavailable on Blu-ray, in full 1080p HD for those consumers with a Roku streaming player.<sup>427</sup> Warner Archive Instant costs \$9.99 a month.<sup>428</sup>

140. *Advertising-Supported*. Advertising-supported OVDs, which generally are owned by studios, broadcast networks, or cable networks, do not charge viewers directly but include advertising

(Continued from previous page)

in 2015, Hulu began offering a Hulu/ Showtime bundle to customers for \$17 a month, or an additional \$8.99 a month beyond the normal Hulu Plus subscription cost. Joan E. Solsman, *Soon for Hulu, it's Showtime. For you, it's a discount*, CNET, June 23, 2015. Hulu, *Hulu with Showtime*, <http://www.hulu.com/getshowtime> (last visited Jan. 20, 2016).

<sup>419</sup> See 16<sup>th</sup> Report, 30 FCC Rcd at 3361, para. 232.

<sup>420</sup> Willa Paskin, *Amazon Had a Great Week!*, January 16, 2015 ([http://www.slate.com/articles/arts/television/2015/01/amazon\\_pilots\\_seven\\_new\\_series\\_from\\_amazon\\_prime\\_streaming\\_are\\_nearly\\_all.html](http://www.slate.com/articles/arts/television/2015/01/amazon_pilots_seven_new_series_from_amazon_prime_streaming_are_nearly_all.html)). In January 2015, the Amazon original series *Transparent* won two Golden Globe Awards, and the company announced a new Woody Allen original television series. *Id.*

<sup>421</sup> Brian Stelter, *34 Emmy nominations for Netflix, 12 nominations for Amazon*, CNN Money, July 16, 2015.

<sup>422</sup> Todd Sprangler, *HBO Cuts Exclusive Licensing Deal with Amazon*, VARIETY, April 23, 2014.

<sup>423</sup> Brian Stelter, *YouTube Is Said to Plan a Subscription Option*, N.Y. TIMES, May 7, 2013 (*YouTube Subscription*). See also Brian Deagon, *A Road Map of Internet Revenue*, INVESTOR'S BUSINESS DAILY, May 20, 2013.

<sup>424</sup> See *YouTube Subscription*. YouTube provides its content creators with two paid channel options; content creators have the option of offering ad-free paid channels or paid channels with some advertising. *Id.*

<sup>425</sup> *Id.*

<sup>426</sup> SNL Kagan, *Selected OTT Aggregators* (chart), October 7, 2014 (estimates as of Sept. 2014) (*OTT Aggregators*).

<sup>427</sup> *Id.* However, some more popular titles, such as *Casablanca* and *Gone with the Wind*, are not available on this service as they licensed to Amazon. *Id.*

<sup>428</sup> Warner Archive, *How much does Warner Archive Instant cost?*, <http://help.instant.warnerarchive.com/link/portal/15025/15299/Article/4121/How-much-does-Warner-Archive-Instant-cost> (last visited Jan. 20, 2016).

along with the programming. A few sites are aggregators, but most are stand-alone sites.<sup>429</sup> Current ad-supported OVDs include the following:<sup>430</sup>

- Sony Pictures Entertainment's Crackle offers original programming as well as full-length movies and television programs from Sony's library to target males aged 18 to 34 years old.<sup>431</sup> Crackle offers movies from Sony, Columbia Pictures, and TriStar Pictures,<sup>432</sup> and refreshes its selection of programming daily.<sup>433</sup>
- Hulu offers an advertising-supported service featuring television programs and movies.<sup>434</sup> There is an eight-day delay for FOX and ABC television programs, unless the viewer subscribes to Hulu Plus or an MVPD that has a TV Everywhere agreement.<sup>435</sup> NBC releases its shows for free on Hulu and its own website the day after the shows air, and Hulu offers part of CBS's program library (not including currently running programs).<sup>436</sup>
- The TV.com website distributes primarily recent television programs that originally aired on the CBS broadcast network.<sup>437</sup> The site also directs consumers to other OVDs where they may obtain their desired television programming.<sup>438</sup>

141. *Broadcast and Cable Networks.* The online video strategies of broadcast and cable networks continue to evolve.<sup>439</sup> As they focus more on generating advertising revenues from online video, individual broadcast and cable networks have taken different approaches while also seeking to protect the revenues they earn from their traditional advertising and MVPDs, as well as guarding against piracy.<sup>440</sup> For example, some networks allow access to programs on advertising-supported sites, some make them available only to authenticated MVPD subscribers, and some impose delays. CBS and Comedy Central make full-length recent episodes available for viewing on their websites,<sup>441</sup> whereas USA Networks, FOX, and ABC delay the availability of episodes.<sup>442</sup> Certain episodes are available for free on CBS.com but some offerings require authentication, while CBS All Access, the network's subscription

<sup>429</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3363, para. 236.

<sup>430</sup> *See id.* at 3363-3364, paras. 237-239.

<sup>431</sup> Crackle, *About Us*, <http://www.crackle.com/about/> (last visited Jan. 20, 2016).

<sup>432</sup> SNL Kagan, Profile: Crackle, May 18, 2015.

<sup>433</sup> Crackle, *About Us*, <http://www.crackle.com/about/> (last visited Jan. 20, 2016).

<sup>434</sup> *2015 State of Online Video Delivery* at 15. The selection for Hulu's advertising-supported service is more limited than the Hulu Plus subscription service.

<sup>435</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3363-3364, para. 238.

<sup>436</sup> *Id.* *See also* Hulu, *Help Center: CBS Shows on Hulu*, <http://www.hulu.com/help/articles/22330147> (last visited Jan. 20, 2016).

<sup>437</sup> Brian Stelter, *CBS Pumps Up TV.com to Create a Destination*, N.Y. TIMES, Jan. 12, 2009. *See also* TV.com, *Videos, Full Length Episodes*, <http://www.tv.com/video/> (last visited Jan. 20, 2016).

<sup>438</sup> *See, e.g.*, TV.com, <http://www.tv.com/shows/law-order-special-victims-unit/watch/> (last visited Nov. 16, 2015) (directing visitors to watch the full-length episodes of the NBC television series *Law & Order: Special Victims Unit* on Netflix, Hulu, Amazon, etc.).

<sup>439</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3364, para. 240.

<sup>440</sup> Dawn Chmielewski and Meg James, *Internet's Role in Cable TV Debated*, L.A. TIMES, Apr. 3, 2009.

<sup>441</sup> CBS.com, *Watch, Latest Full Episodes*, <http://www.cbs.com/watch/> (last visited June 18, 2014).

<sup>442</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3364, para. 240.

service, allows users to watch live television and premium content for a fee.<sup>443</sup> HBO and Showtime both offer programs and content on their websites for authenticated MVPD subscribers.<sup>444</sup> In addition, through its HBO Now product, HBO also offers access to its programming on a stand-alone basis, without the need to be an authenticated MVPD subscriber, for \$14.99 per month.<sup>445</sup> Similarly, in April 2016, Starz introduced a mobile app that allows users to view its premium channel for \$8.99 per month, regardless of whether they subscribe to an MVPD service.<sup>446</sup>

142. *Sports.* Sports leagues make some content available for free, but other content, in particular live streaming of games, is available only to subscribers of the league's online subscription service and authenticated MVPD subscribers in some cases.<sup>447</sup> Major U.S. professional sports leagues, such as MLB, the National Basketball Association (NBA), the National Hockey League (NHL), and Major League Soccer (MLS), participate in the OVD marketplace by offering subscription streaming services for live viewing of full-length out-of-market games on their respective websites.<sup>448</sup> NFL Sunday Ticket, available via DIRECTV, offers online access to NFL games.<sup>449</sup> Consumers may also access NFL content via their MVPD provider, through NFL Mobile and Network apps, and via the Xbox One and Xbox 360.<sup>450</sup>

#### a. Horizontal Concentration and Vertical Integration

143. *Horizontal Concentration.* It is difficult to measure market shares and to determine the extent of horizontal concentration in the OVD marketplace.<sup>451</sup> Players continue to enter and exit, and business models, including those for advertising-based, subscription, and rental OVDs, are diverse and evolving. Even if it were possible to define or categorize all of the players in the OVD marketplace, an analysis of horizontal concentration would still be difficult because ratings/viewing information is not standardized. Many OVDs are integrated with subsidiaries or divisions of companies with multiple non-OVD business lines, and several other OVDs, such as Hulu, are privately owned. Of the major players,

<sup>443</sup> CBS All Access, *FAQ: I'm an All Access subscriber AND verified through my TV provider. What's the difference?*, [https://cbsi.secure.force.com/CBSi/ViewArticle?allaccess?popup=true&aid=kA0E0000000blu5&categories=CBS+Entertainment%3AAll+Access&template=template\\_cbsvod&referer=cbs.com/vod&data=&cfs=SFS\\_AA](https://cbsi.secure.force.com/CBSi/ViewArticle?allaccess?popup=true&aid=kA0E0000000blu5&categories=CBS+Entertainment%3AAll+Access&template=template_cbsvod&referer=cbs.com/vod&data=&cfs=SFS_AA) (last visited Feb. 24, 2016).

<sup>444</sup> Brendan Hesse, *HBO GO vs HBO Now: which is right for you?*, DIGITAL TRENDS, June 21, 2015. See also ShowtimeAnytime, *FAQ: How Do I Access Showtime Anytime?*, <http://www.showtimeanytime.com/#/faq> (last visited Jan. 20, 2016).

<sup>445</sup> Brendan Hesse, *HBO GO vs HBO Now: which is right for you?*, DIGITAL TRENDS, June 21, 2015; see also <https://order.hbonow.com/> (last visited Apr. 29, 2016).

<sup>446</sup> David Katzmaier, *Starz App Lets You Subscribe and Watch for \$9 per Month Without a Cable Subscription*, CNET, Apr. 5, 2016.

<sup>447</sup> See [mlb.com](http://mlb.com), [nba.com](http://nba.com), [nhl.com](http://nhl.com) (last visited March 11, 2015). See also, Vince Horiuchi, *Oh My Tech!: Cutting the TV Cord Could be Tough for Sports Fans*, THE SALT LAKE TRIBUNE, Jan. 23, 2014.

<sup>448</sup> SNL Kagan, *The State of Online Video Delivery*, 2013 Edition, at 11 (2013 *State of Online Video Delivery*). 11. See also National Basketball Association, *League Pass*, <http://www.nba.com/leaguepass/?ls=iref:nba:gnav:lp> (last visited June 18, 2014).

<sup>449</sup> DIRECTV, *Sports: NFL Sunday Ticket*, <http://www.directv.com/DTVAPP/content/sports/nfl> (last visited Nov. 16, 2015). Previously, NFL Sunday Ticket was available only via DIRECTV's MVPD service.

<sup>450</sup> NFL, *Watch NFL Live: Streaming Options for NFL Football Games*, <http://www.nfl.com/watch-nfl-live> (last visited Jan. 20, 2016).

<sup>451</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3365, para. 242.

only Netflix publicly reports subscriber and revenue figures for its online streaming service. Moreover, due to the lack of standardized metrics for measuring viewership,<sup>452</sup> measuring online video viewership raises unique challenges. In addition, services that measure online video viewership generally do not report professional and non-professional video content ratings separately on a systematic basis.

144. *Vertical Integration.* OVDs create or procure content, store it, send it over the Internet, and enable consumers to watch it on their devices.<sup>453</sup> OVDs may also be involved in providing video storage and delivery services, content creation or aggregation (*i.e.*, networks, studios, and sports leagues), or device manufacturing. Several technology companies, notably Amazon, Apple, Google, and Microsoft, also serve as OVDs. Each company takes a slightly different approach to integrating its online video services with storage services, apps, and devices to attract and retain customers.<sup>454</sup>

145. Some OVDs are vertically integrated with technology companies that also store and deliver computer services over the Internet, that is, they store the OVDs' content.<sup>455</sup> Such companies include Amazon (which provides Amazon Web Services), Microsoft (which offers Azure), Google, and Verizon (which provides Verizon Terremark).<sup>456</sup> Several OVDs also own and operate content delivery networks (CDNs).<sup>457</sup> Major OVDs that provide CDN services to third parties include Amazon (through its Amazon CloudFront service), Microsoft (through its Azure service), and Verizon (after it acquired EdgeCast).<sup>458</sup> Google, Netflix, and Microsoft each operate their own proprietary CDNs.<sup>459</sup> Apple operates its own CDN in the United States and Europe.<sup>460</sup>

146. Several OVDs are also device manufacturers. Apple, Google, and Amazon sell devices that enable users to watch online video on their television sets – AppleTV, Google Chromecast, and Amazon Fire TV respectively. In addition, Apple manufactures smartphones and both Amazon and Apple manufacture tablets.<sup>461</sup> Sony's Xbox game console can be used to view OVD content.

147. As described above, most major studios offer OVD EST/rental services. These include Crackle and PlayStation Store (both owned and operated by Sony), Warner Brothers' Flixster, Dreamworks SKG's M-go, Disney Movies Anywhere, and the Paramount Movies site. In addition, networks and sports leagues make their programming available online on their websites, sometimes

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<sup>452</sup> *Id.*

<sup>453</sup> *Id.*

<sup>454</sup> *Id.*

<sup>455</sup> *Id.*

<sup>456</sup> Amazon, *Amazon Web Services*, <https://aws.amazon.com/> (last visited Jan. 20, 2016); Microsoft, *Microsoft Azure*, <https://azure.microsoft.com/en-us/> (last visited Jan. 20, 2016); Netflix Comments at 6.

<sup>457</sup> Netflix Comments at 6.

<sup>458</sup> Amazon, *Amazon CloudFront*, <https://aws.amazon.com/cloudfront/> (last visited Jan. 20, 2016); Microsoft, *Microsoft Azure*, <https://azure.microsoft.com/en-us/> (last visited Jan. 20, 2016); Verizon, *Verizon Digital Media Services*, <https://www.verizondigitalmedia.com/> (last visited Jan. 20, 2016).

<sup>459</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3366, para. 242. Netflix Comments at 6-7.

<sup>460</sup> Shirley Siluk, *Apple Reportedly Building High-Speed Content Delivery Network*, NEWSFACTOR, June 8, 2015.

<sup>461</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3366, para. 243. In late 2015, Amazon announced that it would discontinue its smartphone offering. See Kia Kokalitcheva, *Amazon is killing off the Fire Phone*, Fortune (Sept. 9, 2015), <http://fortune.com/2015/09/09/amazon-killing-fire-phone/> (last visited February 25, 2015).

referred to as verticals or portals.<sup>462</sup> The websites may be brand extensions of existing media properties and/or contain content unique to the Internet.

**b. Conditions Affecting Competition, Entry, and Exit**

148. In this section, we discuss the regulatory conditions potentially affecting the entry of OVDs and competition in this marketplace. We also describe the marketplace, or non-regulatory, conditions that may influence entry decisions and competition, including the need for OVDs to acquire rights to content and to secure sufficient, reasonably priced Internet access for transmission of OVD content.

**(i) Regulatory Conditions**

149. *Open Internet*. On February 26, 2015, the Commission adopted a Report and Order on Remand, Declaratory Ruling and Order (*2015 Open Internet Order*) that prohibits broadband Internet access service providers from blocking or throttling lawful content, services, applications, or non-harmful devices, subject to reasonable network management. Further, the Order prohibits broadband Internet access service providers from favoring some traffic over other traffic in exchange for consideration or to benefit an affiliated entity.<sup>463</sup> The *2015 Open Internet Order* created a standard under which the Commission can prohibit, on a case-by-case basis, practices by a broadband Internet access service provider that “unreasonably interfere with or unreasonably disadvantage the ability of consumers to reach the Internet content, services, and applications of their choosing or of edge providers to access consumers using the Internet.”<sup>464</sup> The rules adopted in the *2015 Open Internet Order* became effective on June 12, 2015.<sup>465</sup> Several parties filed petitions for review of the Order, and the United States Court of Appeals for the District of Columbia Circuit consolidated these petitions into a single docket.<sup>466</sup> Oral arguments were held on December 4, 2015.<sup>467</sup>

150. *Definition of an MVPD*. On December 19, 2014, the Commission released a Notice of Proposed Rulemaking seeking comment on whether the statutory definition of MVPD includes certain

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<sup>462</sup> PC Magazine defines a “portal” as a web “‘supersite’ that provides a variety of services.” See PC Magazine, *Encyclopedia, Definition of: Portal*, <http://www.pcmag.com/encyclopedia/term/49528/portal> (last visited Feb. 2, 2016). It notes that television networks provide general purpose portals, but not e-mail. See *id.*

<sup>463</sup> *Protecting and Promoting the Open Internet*, GN Docket No. 14-28, Report and Order on Remand, Declaratory Ruling and Order, 30 FCC Rcd 5601 (2015) (*2015 Open Internet Order*). The Order also adopts enhancements to the transparency rule from the 2010 Net Neutrality order. *Id.* at 5609, para. 24.

<sup>464</sup> *Id.* at 5659, para. 135. Pursuant to Sections 201 and 202 of the Communications Act, the *2015 Open Internet Order* also asserts Commission authority to hear disputes regarding arrangements for the exchange of traffic with broadband Internet access service providers and edge providers or intermediaries (such as transit providers and content delivery networks). *Id.* at 5685-86, 5692, paras. 193, 203. The Commission also declined to forbear from applying section 208 of the Act, which “permits ‘[a]ny person, any body politic, or municipal organization, or State commission, complaining of anything done or omitted to be done by any common carrier subject to this chapter in contravention of the provisions thereof’ to file a complaint with the Commission and seek redress.” *Id.* at 5815, para. 453 (quoting 47 U.S.C. § 208).

<sup>465</sup> Federal Communications Commission, *Protecting and Promoting the Open Internet*, 80 Fed. Reg. 19738 (Apr. 13, 2015) (specifying the effective date).

<sup>466</sup> *List of Pending Appellate Cases* at 6 (Feb. 24, 2016) available at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2016/db0224/DOC-337898A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2016/db0224/DOC-337898A1.pdf).

<sup>467</sup> *Id.*

Internet-based distributors of video programming.<sup>468</sup> In the Notice, the Commission proposed to interpret “multichannel video programming distributor” to include OVDs if an OVD makes available for purchase, by subscribers or customers, multiple linear streams of video programming.<sup>469</sup> FilmOn X, for example, claimed that the Commission’s proposal would promote competitive parity between OVDs and incumbent MVPDs, arguing that MVPDs benefit from rules and regulations that provide them with negotiating rights to content and other distribution-related rights that OVDs currently do not have.<sup>470</sup> Commenters opposing the Commission’s proposal argue that regulations would stifle an innovative industry that has been flourishing in the absence of Commission intervention.<sup>471</sup>

151. *Closed Captioning.* All distributors of IP-delivered programming, including OVDs, are required to comply with the Commission’s rules requiring closed captioning of IP-delivered video programming, including certain video clips that were first published or exhibited on television with captions.<sup>472</sup>

## (ii) Marketplace Conditions

152. An OVD entrant can face several non-regulatory costs and challenges that affect its ability to enter the marketplace, including content acquisition and ability to access sufficient Internet capacity to provide customers with a high-quality OVD viewing experience.

153. *Access to Content.* The entry of new OVDs and the growth of the OVD marketplace depend on the ability of OVDs to acquire or create compelling programming that will attract viewers and subscribers.<sup>473</sup> Content owners’ windowing strategies play a key role in determining which type of OVDs are able to access content and when they are able to do it.<sup>474</sup> Recently, some major studios have changed their digital windows, making digital copies of titles available earlier than the DVD versions.<sup>475</sup> Studios

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<sup>468</sup> See *MVPD NPRM*. See also *Sky Angel U.S., LLC v. Discovery Communications, LLC and Animal Planet, L.L.C.*, MB Docket Nos. 12-80, 12-83, CSR Docket No. 8605-P, Order, DA 14-1874 (MB rel. Dec. 19, 2014) (holding the Sky Angel program access complaint in abeyance and terminating the Media Bureau’s March 2012 PN docket). The issue of whether a certain type of OVD also qualifies as an MVPD under the Act and our regulations has been raised previously in program access complaint proceedings. See, e.g., *VDC Corp. v. Turner Network Sales, Inc., et al.*, Program Access Complaint (Jan. 18, 2007); and *Sky Angel U.S., LLC v. Discovery Communications LLC, et al.*, Program Access Complaint, MB Docket No. 12-80, CSR-8605-P (Mar. 24, 2010). Nothing in this Report should be read to state or imply a determination on the issues raised by the *MVPD NPRM*.

<sup>469</sup> *MVPD NPRM*, 29 FCC Rcd at 15996, para. 1

<sup>470</sup> See FilmOn X Comments at 11-12.

<sup>471</sup> See NCTA Reply at 3-4; CEA Comments at 5. In November 2015, the Consumer Electronics Association changed its name to the Consumer Technology Association. See, e.g., CEA Changes Name to Consumer Technology Association (CTA), CEPro, Nov. 12, 2015, at [http://www.cepro.com/article/cea\\_changes\\_name\\_to\\_consumer\\_technology\\_association\\_cta#](http://www.cepro.com/article/cea_changes_name_to_consumer_technology_association_cta#) (last visited Apr. 29, 2016). In this Report, we refer to the organization as CEA.

<sup>472</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3369, para. 251. See also *Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty First Century Communications and Video Accessibility Act of 2010*, Report and Order, 27 FCC Rcd 787 (2012); *Closed Captioning of Internet Protocol-Delivered Video Programming: Implementation of the Twenty First Century Communications and Video Accessibility Act of 2010—Closed Captioning of Internet Protocol-Delivered Video Clips*, Second Order on Reconsideration and Second Further Notice of Proposed Rulemaking, 29 FCC Rcd 8687 (2014).

<sup>473</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3369, para. 253.

<sup>474</sup> *Id.*

<sup>475</sup> *2015 State of Online Video Delivery* at 5.

are concerned about security and piracy of online content.<sup>476</sup> In addition, networks and studios factor in the possibility that MVPDs may be less willing to pay them if the MVPDs cannot obtain exclusive TV Everywhere rights.<sup>477</sup> Some television studios opt for traditional syndication rather than distribution via subscription online video services.<sup>478</sup> As noted above, more live sports events are being made available online without the need for an MVPD subscription.<sup>479</sup> Moreover, in addition to new services like Sling TV, which stream live TV, several OVDs offer recent episodes of television programs.<sup>480</sup>

154. Another potential barrier to content acquisition can be cost, particularly for subscription services.<sup>481</sup> As of December 31, 2014, Netflix was obligated to pay a total of \$9.5 billion for content for its online video streaming services.<sup>482</sup> In 2014, Netflix's domestic cost of its streaming service increased to roughly \$2.2 billion per year, of which the content licensing expenses increased by \$242.3 million as a result of investing in more exclusive and original programming.<sup>483</sup> Other companies' decisions to enter the OVD marketplace can depend in part on the cost at which they can obtain content distribution rights. According to one analyst, content owners require content distributors to guarantee a minimum number of subscribers during a multi-year agreement, obligating the distributors to incur large fixed costs for content up front.<sup>484</sup>

155. OVDs' entry also may be affected by pre-existing business relationships. Specifically, vertical integration or exclusivity arrangements between content producers/owners and cable networks, broadcast networks, or MVPDs may hinder unaffiliated OVDs.<sup>485</sup> OVD content acquisition also can be challenging when content owners are vertically integrated with, or enjoy exclusive relationships with, other OVDs.<sup>486</sup>

156. On February 18, 2016, the Commission released a Notice of Inquiry exploring issues that independent video programmers confront in gaining carriage in the current marketplace and possible actions the Commission or others might take to address those issues. It seeks comment on, among other things, the prevalence and effect of various industry practices that potentially could impede OVD entry or

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<sup>476</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3369, para. 253.

<sup>477</sup> *Id.* at 3370, para. 253.

<sup>478</sup> *Id.*

<sup>479</sup> *Id.*

<sup>480</sup> *Id.*

<sup>481</sup> *Id.* at 3369, para. 254.

<sup>482</sup> Netflix 2014 Form 10K at 28. In connection with obtaining streaming content, Netflix typically enters into multi-year licenses with studios and other content providers, the payment terms of which are not tied to member usage or the size of its member base ("fixed cost") but which may be tied to such factors as titles licensed and/or theatrical exhibition receipts. *Id.* at 3. Netflix incurs a streaming content obligation at the time it signs a license agreement to obtain future movie and television program titles. Once a title becomes available, Netflix records a content liability on its Consolidated Balance Sheet. Certain agreements include the obligation to license rights for unknown future titles, the ultimate quantity of and/or fees for which are not yet determinable as of the reporting date. Netflix expects the unknown obligations to be significant. *Id.* at 28, n. 1.

<sup>483</sup> *Id.* at 18.

<sup>484</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3370-3371, para. 254.

<sup>485</sup> *Id.* at 3371, para. 255.

<sup>486</sup> *Id.*

growth in the video distribution marketplace.<sup>487</sup> For example, the Commission sought comment on whether MVPDs' insistence on independent programmers' required compliance with contract provisions such as most favored nation (MFN) and alternative distribution method (ADM) clauses would make OVD carriage of these programmers economically infeasible, potentially limiting OVD video offerings and OVDs' ability to compete with incumbent MVPDs.<sup>488</sup>

157. *Access to Devices.* To make their programming available to consumers, OVDs typically rely on partnerships with manufacturers of Internet-enabled devices, including television sets, DVD and Blu-ray players, game consoles, and mobile devices.<sup>489</sup> As the marketplace has matured, some content owners have shifted their strategies from making their movies and television programs available on as many platforms and devices as possible to focusing on manufacturers that command a larger market share.<sup>490</sup> Netflix indicates that its agreements with consumer electronics manufacturers are typically between one and three years in duration, and that the degree of accessibility and prominence of its service is among the terms of its agreements.<sup>491</sup> It notes that, as it makes technological changes to its streaming capabilities, the consumer electronics manufacturers may need to update their devices in order to maintain the quality of service for Netflix's subscribers.<sup>492</sup> Roku estimates that it adds two to three channels daily.<sup>493</sup> Some device manufacturers, such as Apple, require OVDs to pay them a percentage of their monthly fees, which in the case of Apple is between 15 and 30 percent.<sup>494</sup> In addition, device manufacturers that are vertically integrated with OVDs may design the equipment specifically for their own OVD services. For example, Apple allows movies and television shows purchased via iTunes to be accessed by any compatible Apple device.<sup>495</sup> Similarly, Amazon's Fire TV directs users to the Amazon's Instant EST/rental video service for access to television programs and movies for purchase or rental.<sup>496</sup> The fragmentation caused by the variety of platforms and devices presents challenges to OVDs because it is complex and costly to convert videos into the formats required for different devices and to ensure quality streaming on every screen.<sup>497</sup>

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<sup>487</sup> *Independent Programming NOI*, at 1, para. 1. The deadline for comments was March 30, 2016, and the deadline for reply comments was April 19, 2016. *Comment and Reply Deadlines Set for Independent Programming NOI*, MB Docket No. 16-41, Public Notice, DA 16-226, at 1.

<sup>488</sup> *See Independent Programming NOI*, at 4-6, paras. 7, 10.

<sup>489</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3371, para. 256. As noted above, however, Apple prevents consumers from viewing much of its OVD content vial Apple devices.

<sup>490</sup> *Id.*

<sup>491</sup> Netflix, Inc., SEC 2014 Form 10-K at 5.

<sup>492</sup> *Id.*

<sup>493</sup> Ali Choukeir, *Profile: Roku*, SNL KAGAN, June 18, 2014.

<sup>494</sup> Peter Kafka, *How to Beat Apple's 30 Percent Subscription Fee: Sell Your Stuff on Apple TV*, Re/Code, April 13, 2015.

<sup>495</sup> Apple, *Download Your Past Purchases: Redownload a movie, TV show, or music video*, Oct. 29, 2015, <https://support.apple.com/en-us/HT201272>.

<sup>496</sup> Ali Choukeir, *Profile: Amazon Fire TV*, SNL KAGAN, May 29, 2014.

<sup>497</sup> Erik J. Martin, *State of Online Video*, ECONTENT, Feb. 14, 2014, at <http://www.econtentmag.com/Articles/Editorial/Feature/The-State-of-Online-Video-94235.htm> (last visited Jan. 20, 2016).

158. *Internet Capacity, Usage, and Cost.* Access to high-speed data pipelines capable of delivering a high quality video signal is critical for OVD entrants.<sup>498</sup> OVDs require sufficient Internet capacity to transmit their programming, and consumers need sufficient broadband service to access OVDs' content. For EST/rental services, broadband speeds impact the amount of time required to download television programs and movies. For example, iTunes states that for users with a 5 Mbps downstream connection, a 45-minute television program in standard definition will require about 3-5 minutes to download, while a 45-minute television program in high definition will require about 10-15 minutes to download; a two hour high definition movie will require 54-72 minutes.<sup>499</sup> For OVDs that stream content, broadband speeds impact the quality of the video viewers are able to watch. For example, Netflix recommends that subscribers have a speed of at least 3.0 Mbps to watch programs in standard definition quality; 5.0 Mbps to watch content in high definition quality; and 25 Mbps to watch programs in Ultra HD quality.<sup>500</sup>

159. As of December 2014, the Commission's Wireline Competition Bureau estimates that 8 percent of fixed broadband connections (or 8 million connections) were slower than 3 Mbps downstream, 19 percent (or 19 million connections) were at least 3 Mbps downstream but slower than 10 Mbps, 28 percent (or 27 million connections) were at least 10 Mbps downstream but slower than 25 Mbps, and 45 percent (or 44 million connections) were at least 25 Mbps in the downstream direction.<sup>501</sup> SNL Kagan estimates that at the end of 2014, there were 91.7 million residential high speed data subscribers, including 53.9 million cable subscribers, 33.3 million telephone company subscribers, 2.8 million wireless-only subscribers, and 1.7 million satellite subscribers.<sup>502</sup>

160. According to Sandvine, in recent years, consumers' OVD viewing patterns have shifted from a "download now, use later" pattern of viewing for EST/rental OVDs to streaming video from subscription and advertising-supported OVDs, requiring real-time delivery of data over the Internet.<sup>503</sup> Sandvine reports that real-time entertainment was the dominant category in September 2014, comprising 67.53 percent of downstream traffic on North American fixed access networks.<sup>504</sup> Sandvine states that

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<sup>498</sup> Ian Olgeirson and Deana Myers, *Service Providers Lessen OTT Substitution, but Challenges Persist*, SNL KAGAN, Sept. 11, 2012.

<sup>499</sup> Apple, Inc., Support, *iTunes Store: Download Times Will Vary*, <http://support.apple.com/kb/ht1577> (last visited Nov. 16, 2015).

<sup>500</sup> Netflix, Inc., *Help Center: Internet Connection Speed Recommendations*, <https://help.netflix.com/en/node/306> (last visited Nov. 16, 2015).

<sup>501</sup> *Internet Access Services: Status as of Dec. 31, 2014* (IATD, WCB Mar. 2016), at 5, (last visited Apr. 13, 2016). The Commission has noted that "[w]hile 10 Mbps/1 Mbps suffices for many basic household uses, it is insufficient for some of the video broadband offerings on the market today, and it is not adequate for all household broadband needs. Perhaps more importantly, regardless of whether 10 Mbps/1 Mbps suffices for the majority of households today, it does not satisfy the statutory requirement to consider the availability of advanced services." See *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2015 Broadband Progress Report and Notice of Inquiry on Immediate Action to Accelerate Deployment, 30 FCC Rcd 1375, 1407, paras. 53-54 (2015).

<sup>502</sup> Ian Olgeirson and Chris Young, *Broadband Spikes in 2014; Cable, Telco Forecast to Top 100 Million in Near-term Outlook*, SNL KAGAN, May 14, 2015.

<sup>503</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3373, para. 260.

<sup>504</sup> Sandvine, *Global Internet Phenomena Report*, 2H 2014, at 5, Figure 1 "Peak Period Aggregate Traffic Composition, Fixed Access." Sandvine categorizes traffic from subscription and advertising-supported OVDs,

(continued....)

Netflix accounted for 34.9 percent of peak period downstream traffic in September 2014, compared with 34.2 percent during the first half of 2014.<sup>505</sup> YouTube's peak period downstream traffic share was 14.04 percent, Hulu's share was 1.41 percent, iTunes' share was 2.77 percent, and Amazon Video's share was 2.58 percent.<sup>506</sup> In September 2014, real-time entertainment represented 39.76 percent of mobile downstream traffic in North America.<sup>507</sup> During the second half of 2014, Netflix represented 4.51 percent of mobile data in North America, compared with a 19.75 percent for YouTube, and 3.20 percent for iTunes.<sup>508</sup>

161. Consumer demand for new services and the use of multiple services at one time, including increased demand for video services, has created greater demand for improved broadband service.<sup>509</sup> To reduce transit costs and improve quality of service, some OVDs have employed CDNs<sup>510</sup> to carry traffic to the gateway of the ISP as close to end users as possible.

162. Recently, interconnection congestion and fees imposed on providers such as OVDs have given rise to disputes that have been brought before the Commission in numerous proceedings.<sup>511</sup> In the 2015 *Open Internet Order*, the Commission noted that anticompetitive and discriminatory interconnection practices by ISPs "can have a deleterious effect on the open Internet, and therefore retain[ed] targeted authority to protect against such practices."<sup>512</sup>

163. The total amount of data needed per month to watch an OVD service depends on the amount of time spent watching and the quality of the video, with higher quality video using more bandwidth than lower-quality video.<sup>513</sup> Sandvine estimates that the top 15 percent of users who stream video account for 53.9 percent of total traffic, streaming an average of 100 hours per month, and consuming about 153 GB per month in real-time entertainment.<sup>514</sup> Sandvine also estimates that the 15-85 percentile of subscribers who regularly stream video account for 45.7 percent of total traffic, streaming an average of nine hours per month, and consuming 13 GB per month in real time entertainment.<sup>515</sup> The

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including Netflix, Hulu, and YouTube, as "real time entertainment" – defined as applications and protocols that allow on-demand entertainment to be viewed as it arrives. *Id.* at 23.

<sup>505</sup> *Id.* at 6.

<sup>506</sup> *Id.*

<sup>507</sup> *Id.* at 7.

<sup>508</sup> *Id.* at 8.

<sup>509</sup> See, e.g., Letter from Samuel L. Feder, Jenner & Block, Counsel for Charter Communications, to Marlene H. Dortch, Secretary, FCC, MB Docket No. 15-149, at 6 (Dec. 11, 2015); Comcast and Time Warner Cable's Reply to Responses at 7, MB Docket. No. 14-57, Dec. 23, 2014.

<sup>510</sup> Many OVDs (and other edge providers) purchase CDN service from commercial providers such as Akamai, Limelight, or Edgecast. OVDs such as Netflix and YouTube are large enough to benefit from operating their own CDNs, optimized for their own specific service. Both commercial and private CDNs negotiate interconnection arrangements with ISPs. See Body of European Regulators of Electronic Communications, [An assessment of IP interconnection in the context of Net Neutrality](http://bereg.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=1130), Sec. 4.4.4, [http://bereg.europa.eu/eng/document\\_register/subject\\_matter/berec/reports/?doc=1130](http://bereg.europa.eu/eng/document_register/subject_matter/berec/reports/?doc=1130) (last visited April 13, 2016).

<sup>511</sup> See, e.g., 2015 *Open Internet Order*, 30 FCC Rcd at 5686-96. paras 194-206.

<sup>512</sup> *Id.* at 5686-87, para 195.

<sup>513</sup> Netflix, Inc., *Help Center: Internet Connection Speed Recommendations*, <https://help.netflix.com/en/node/306> (last visited Nov. 16, 2015).

<sup>514</sup> Sandvine, *Global Internet Phenomena Report*, 1H 2014, at 7.

<sup>515</sup> *Id.*

lowest 15 percent of users who stream traffic account for a 0.5 percent share of total traffic, streaming an average of less than one hour per month, consuming about 40 MB per month in real time entertainment.<sup>516</sup>

164. Several ISPs, including wireline and wireless providers, have initiated bandwidth caps or usage-based price tiers, using a variety of business models.<sup>517</sup> Generally, ISPs usage-based pricing (UBP) is based on the volume of traffic transmitted to/from the subscriber.<sup>518</sup> Data caps generally define a limit on the amount of data per month available to a subscriber (expressed in gigabytes). Exceeding the cap could subject a subscriber to alterations in its Internet service, possibly after one or more warnings, such as reduced access speed, additional charges, suspension of services, or termination of service.<sup>519</sup> Netflix notes that how ISPs implement usage-based pricing, including bandwidth caps, could impact its acquisition and retention of subscribers.<sup>520</sup> NCTA argues, however, that usage-based pricing enables consumers to choose Internet services that best meet their needs and promotes fairness by asking high-volume Internet users to shoulder a greater proportionate share of network costs.<sup>521</sup>

165. Most major MVPDs have implemented usage caps or usage-based/metered pricing on their broadband internet access services.<sup>522</sup> They have generally adopted thresholds that exceed typical traffic and chose either to cap usage or to implement overage charges for customers who exceed the limits. Comcast has launched multiple trial approaches in different markets.<sup>523</sup> For example, in Nashville, Tennessee, Comcast offers a monthly data usage plan of 300 GB per month for all XFINITY Internet tiers. Comcast subscribers can purchase additional 50 gigabyte blocks for \$10.<sup>524</sup> Comcast also offers an unlimited data option in some areas that costs an additional \$30 to \$35 a month.<sup>525</sup> In Tucson, Arizona, Comcast offers a monthly data usage plan of 300 GB per month for Economy Plus through Performance XFINITY Internet tiers. Customers who subscribe to Comcast's Blast! Internet tier receive 350 GB per month; Blast!Pro customers receive 450 GB per month, and Extreme customers receive 600

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<sup>516</sup> *Id.*

<sup>517</sup> Usage based pricing includes all forms of pricing that incorporates volume. Data caps are one form of UBPs. See Open Internet Advisory Committee, Economic Impacts of Open Internet Frameworks Working Group, Federal Communications Commission, *Policy Issues in Data Caps and Usage-Based Pricing*, released Aug. 20, 2013 at 6-7. For a list of ISPs' policies as of 2013, see App. A (*OIAC Data Caps and UBP*).

<sup>518</sup> *Id.* at 2.

<sup>519</sup> *Id.* at 2-3.

<sup>520</sup> Netflix 2014 Form 10K at 7.

<sup>521</sup> NCTA, Issue Overview: Fair Broadband Pricing, <https://www.ncta.com/positions/fair-broadband-pricing> (last visited Jan. 20, 2016).

<sup>522</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3376, para. 266. Other MVPDs that impose data usage limits include AT&T, Suddenlink, Mediacom, and Cable One. Robert Channick, *Comcast Testing Data Usage Caps for Heavy Online Users*, Chicago Tribune, Nov. 9, 2015.

<sup>523</sup> Comcast, <http://customer.comcast.com/help-and-support/internet/data-usage-what-are-the-different-plans-launching> (last visited Jan. 20, 2016).

<sup>524</sup> Jon Brodtkin, *Comcast brings data caps to more cities, says it's all about "fairness"*, ARSTECHNICA, Nov. 5, 2015.

<sup>525</sup> Xfinity, *Support: What is the Unlimited Data Option?*, <http://customer.xfinity.com/help-and-support/internet/exp-unlimited-data> (last visited Feb. 24, 2016). For example, in Florida the 75 Mbps broadband-only package costs \$80 per month and has a limit of 300 gigabytes per month with an overage cost of \$10 per 50 gigabytes. With the unlimited package, the monthly bill would be \$110, a \$30 increase. Stacey Higginbotham, *Your Next Comcast Bill May be Priced per Gigabyte*, FORTUNE, Sept. 30, 2015.

GB per month. Additional 50 GB blocks are available for \$10.<sup>526</sup> In contrast to ISPs that have implemented data usage caps, Verizon FiOS does not impose such caps.<sup>527</sup> With respect to Internet access from mobile broadband providers, both Verizon Wireless and AT&T impose data allowances, except for AT&T customers eligible for the DIRECTV and AT&T Wireless unlimited data bundle,<sup>528</sup> while Sprint markets both “unlimited” data plans and shared data plans with data allowances,<sup>529</sup> and T-Mobile markets “unlimited” data plans.<sup>530</sup>

166. OVDs and ISPs differ about the impact of UBP on users and competition. ISPs contend that light users should not be forced to subsidize the cost of serving the heavy users, and the high thresholds for their UBP policies impact a relatively low percentage of subscribers.<sup>531</sup> They view pricing and product choices as consumer options, and argue that the availability of low-priced broadband service plans may encourage light user adoption. Likewise, ISPs argue that UBP could encourage OVDs to deliver their services more efficiently through technological innovation rather than acting as a potential barrier to OVD entry.<sup>532</sup> For example, Netflix has created a new streaming technology that would encode videos on a per title basis, which would improve video quality and help save consumers up to 20 percent of data.<sup>533</sup> Conversely, OVDs suggest that data caps may reduce demand and inhibit the entry of particularly data-intensive firms. The same number of heavy users who may comprise a small fraction of an ISP’s subscribers may comprise a relatively high fraction of an OVD’s subscribers.<sup>534</sup> OVDs state that any improvements they make in more efficiently and effectively delivering their services have little to do with UBP. They also claim that OVDs provide value to Internet service subscribers, but that ISPs that are also MVPDs may discriminate against OVD applications they view as a threat to their video business.<sup>535</sup>

167. Given the increasing volume of OVD usage by consumers, UBP may have an

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<sup>526</sup> Xfinity, *Support: What are the data usage plans being trialed?*, <http://customer.xfinity.com/help-and-support/internet/data-usage-trials-what-are-the-different-plans-launching> (last visited Jan. 20, 2016).

<sup>527</sup> Verizon, *Verizon Policy Blog: Yes, You Can Use FiOS as Much as You Want . . . Really!*, Feb. 27, 2014, <http://publicpolicy.verizon.com/blog/entry/yes-you-can-use-fios-as-much-as-you-want-really>.

<sup>528</sup> Jon Brodtkin, *Verizon Wireless feeling heat of competition, cuts data prices*, ARSTECHNICA, Feb. 5, 2015. Verizon’s offers plans with data allowances between 1 gigabyte to 18 gigabytes that can be shared between devices, and have a fee of \$15 for every extra gigabyte. Verizon, *Verizon Plan: First, choose your data*, <http://www.verizonwireless.com/landingpages/verizon-plan/> (last visited April 13, 2016). *See also* AT&T, *Plans: MobileSharePlansConfigurator-AT&T*, <https://www.att.com/shop/wireless/plans/planconfigurator.html> (last visited Jan. 20, 2016).

<sup>529</sup> *See* Sprint Corp., *Do More With Your Own Data*, <http://www.sprint.com/landings/datashare/index.html?INTNAV=ATG:HE:UnlimitedPlan&view=unlimitedtalk> (last visited Jan. 20, 2016). Sprint’s terms note that they may limit or reduce throughput due to network congestion. *Id.*

<sup>530</sup> *See* T-Mobile US Inc., *Simple Choice Plan*, <http://www.t-mobile.com/cell-phone-plans/family.html#tab-navigation> (last visited Jan. 20, 2016). Under T-Mobile’s terms, once the user exceeds a certain specified data allotment, data speeds are reduced. *Id.*

<sup>531</sup> Alina Selyukh, *Internet Users Often Unclear about Their Data Use: U.S. WatchDog*, REUTERS, July 29, 2014, at <http://www.reuters.com/article/2014/07/29/us-usa-internet-data-idUSKBN0FY1F120140729> (last visited Aug. 18, 2014).

<sup>532</sup> *OIAC Data Caps and UBP* at 14-16.

<sup>533</sup> Janko Roettgers, *Inside Netflix’s Plan to Boost Streaming Quality and Unclog the Internet*, VARIETY, Dec. 14, 2015.

<sup>534</sup> *OIAC Data Caps and UBP* at 14, 17-18.

<sup>535</sup> *Id.* at 18.

increasingly significant effect on OVDs. For example, some have observed that OVD usage is the primary reason that consumers exceed ISP usage allowances.<sup>536</sup> Some have also noted that cable services do not have limitations on the viewership of linear video, whereas a consumer's consumption of OVD services could potentially be constrained by usage-based limitations.<sup>537</sup> Furthermore, to the extent that an entity offers both an MVPD service and an ISP service, some have noted that the entity may have an incentive to impose data caps or exempt certain affiliated services from these data caps in order to promote the entity's own video services and protect them from competition.<sup>538</sup>

### c. Recent Entry and Exit

168. The OVD marketplace continues to expand and change. Entrants often use new technologies and experiment with a variety of business models.<sup>539</sup> OVDs are constantly entering and exiting the marketplace and changing the services and programming they offer, in response to viewer demand as well as external factors, such as the ability to access content and reach consumers.<sup>540</sup>

169. *Entry.* Since the last report, several OVDs have entered the crowded marketplace. HBO Now launched exclusively to Apple TV and iOS devices for \$14.99 per month in April 2015.<sup>541</sup> The

<sup>536</sup> See, e.g., Jon Brodtkin, *Watch Out for Data Caps: Video-Hungry Cord Cutters Use 328GB a Month*, ARS Technica (May 14, 2014), <http://arstechnica.com/information-technology/2014/05/watch-out-for-data-caps-video-hungry-cord-cutters-use-328gb-a-month/> (arguing that ISP data limits may constrain cord cutters, citing a Sandvine report indicating that Internet users who appear to be cord cutters consume more than seven times the data of a typical subscriber); Public Knowledge et al. Comments, GN Docket No. 14-28, at 51 (July 15, 2014) (stating that “video is the most widely adopted high-bandwidth activity” and “[e]ven assuming a subscriber used her internet connection for nothing but watching video, that exceeds most wired data caps by at least a factor of two.”); Aviv Nevo et al., *Usage-Based Pricing and Demand for Residential Broadband*, NBER Working Paper No. 21321 at 8 (July 2015), available at <http://www.nber.org/papers/w21321.pdf> (noting that consumers curtail usage once they get closer to their data cap); Tali Arbel, *How Comcast wants to meter the Internet*, AP (Oct. 27, 2015) <http://bigstory.ap.org/article/3eed82ff6ab848f294e621c7d21f9690/how-comcast-wants-meter-internet> (noting that using streaming technology exclusively for consumption of video would exceed a 300GB cap); Brad Reed, *FCC complaints reveal the horrors of Comcast's data caps*, BGR (Sept. 16, 2015), <http://bgr.com/2015/09/16/why-is-comcast-so-bad-54/> (citing FCC complaints from users who use streaming video services and exceed provider data caps).

<sup>537</sup> See, e.g., *supra*, paras. 166-66.

<sup>538</sup> See, e.g., Stephen Lovely, *Interview: Roger Lynch, CEO Of Sling TV*, Cordcutting.com (Dec. 7, 2015), <http://cordcutting.com/interview-roger-lynch-ceo-of-sling-tv/> (“We see concerning things happening if you look at cable companies like Comcast now instituting data caps that just happen to be at a level at or below what someone would use if they’re watching TV on the internet – and at the same time launching their own streaming service that they say doesn’t count against the data cap.”); see also, Public Knowledge et al. Comments, GN Docket No. 14-28, at 49, 51-52 (July 15, 2014) (asserting that many ISPs with pay-TV offerings have an incentive to impose data caps and exempt certain services to disadvantage online video competitors); Gerry Smith, *Comcast Wants to Limit Your Netflix Binges*, Bloomberg Technology (Jan. 28, 2016), <http://www.bloomberg.com/news/articles/2016-01-28/comcast-draws-customer-ire-by-putting-netflix-addicts-on-a-meter> (citing an October 2015 Moffett report which stated that usage-based pricing is “an insurance policy against cord-cutting” for pay-TV providers); Danielle Kehl and Patrick Lucey, *Artificial Scarcity: How Data Caps Harm Consumers and Innovation*, New America Foundation’s Open Technology Institute at 9 (June 2015), <http://muninetworks.org/sites/www.muninetworks.org/files/2015-07-OTI-Data-Caps-Report.pdf> (arguing that data caps harm online video, innovation, and competition).

<sup>539</sup> Comcast Comments at 21; Netflix Comments at 4, 6.

<sup>540</sup> NCTA Comments at 9-15. See also *16<sup>th</sup> Report*, 30 FCC Rcd at 3377, paras. 268.

<sup>541</sup> Todd Spangler, *HBO Now Finally Breaks Up the Pay-TV Bundle (Analysis)*, VARIETY, March 18, 2015.

service is now available on Google Chromecast and Roku, as well as on Android and Amazon devices.<sup>542</sup> Showtime launched its own stand-alone service in July 2015 for iOS and Roku devices for a \$10.99 monthly fee.<sup>543</sup> Additionally, Viacom launched NOGGIN, a streaming service aimed at preschoolers, in early 2015 for \$5.99 per month, and A+E Networks released Lifetime Movie Club for \$3.99 a month in mid-2015.<sup>544</sup>

170. *Exit.* In 2014, Microsoft stopped commissioning programs and moved away from positioning Xbox One as an all-in-one entertainment system, to focus on games.<sup>545</sup> Redbox Instant (a joint venture between Verizon and Redbox) discontinued service in October 2014.<sup>546</sup> Target Ticket ended service in March 2015 and partnered with CinemaNow.<sup>547</sup> Aereo, an Internet television service that streamed live and recorded broadcast television to smartphones, tablets, and Internet-connected TVs suspended its service in mid-2014 and filed for Chapter 11 bankruptcy reorganization in the Bankruptcy Court for the Southern District of New York on November 21, 2014.<sup>548</sup> In March 2015, TiVo announced its purchase of various Aereo assets, including trademarks and customer lists.<sup>549</sup>

### 3. Business Models, Competitive Strategies, and Marketplace Rivalry

171. The OVD industry is evolving, and no single business strategy has emerged as the dominant model. Unlike with MVPDs, which generally compete to be the sole provider for a consumer, a single consumer often uses or subscribes to multiple OVDs. As discussed above, OVDs offer content to consumers via electronic sell-through, rental, subscription (with or without advertising), or for free (usually with advertising).<sup>550</sup> The costs associated with acquiring content, making it available to consumers, and providing content via multiple platforms and devices have an impact on the content and features provided by OVDs. In this section, we discuss the business models and competitive strategies employed by a sample of OVDs, as well as the impact of those models on service features, price rivalry, and non-price rivalry.

172. *Electronic Sell-Through.* Studios encourage sales by routinely making movies available for digital purchase two weeks before they are available on DVD and Blu-ray discs, because selling a movie is three times more profitable than renting one.<sup>551</sup> EST services generally cater to the service's devices, making movies and television programs purchased from one OVD potentially not viewable on all other consumer devices.<sup>552</sup> For example, movies purchased from Apple's iTunes will not play on non-

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<sup>542</sup> Ben Popper, *HBO Now moves beyond Apple, arrives on Android and Amazon devices*, The Verge, July 16, 2015; HBO Now, *Watch Anywhere, Anytime*, <https://order.hbonow.com/devices> (last visited March 9, 2016).

<sup>543</sup> Jeff Baumgartner, *Showtime Unleashes Stand-alone OTT Service*, Multichannel News, July 7, 2015.

<sup>544</sup> Sarah Perez, *Nickelodeon Unveils "Noggin," A Mobile Subscription Service For Preschoolers Arriving In March*, Tech Crunch, Feb. 25, 2015; Jon Lafayette, *Lifetime Movie Club App Will Cost \$3.99*, Broadcasting & Cable, July 2, 2015.

<sup>545</sup> Erik Kain, *Microsoft Is Shutting Down Xbox Entertainment Studios*, Forbes, July 17, 2014.

<sup>546</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3380, paras. 273.

<sup>547</sup> Target Ticket, *Important Guest Information Update*, <http://www.targetticket.com/> (last visited Jan. 20, 2016).

<sup>548</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 3379-3380, paras. 272.

<sup>549</sup> TiVo, *TiVo Acquires Aereo Assets* (press release), March 13, 2015.

<sup>550</sup> *See supra*, paras. 134-40.

<sup>551</sup> Brooks Barnes, *Disney Throws Open the Gates to Its Own Digital Movie Service*, THE NEW YORK TIMES, Feb. 26, 2014.

<sup>552</sup> *2015 State of Online Video Delivery* at 13.

Apple devices, but movies purchased from Amazon or CinemaNow will play on iOS devices.<sup>553</sup> On the other hand, Apple's vertical integration of its iTunes service, its iOS operating system, and Apple devices enables users to seamlessly share videos with iPhones, iPads, and Apple TVs.<sup>554</sup> The limited capacity of hard drives can also limit consumers' EST purchases.<sup>555</sup>

173. UltraViolet, developed by a consortium of OVDs, studios, retailers, and other entities called the Digital Entertainment Content Ecosystem, addresses some of these issues. UltraViolet is a cloud-based "content locker" that uses purchase codes to allow users to watch content bought on disk or electronically across multiple devices.<sup>556</sup> In 2015, UltraViolet had an estimated 21 million registered accounts. Warner Brothers' Flixster and Sony Pictures' dedicated UltraViolet websites allow UltraViolet users to access titles on a range of Android/iOS devices, as well as PCs and Macs.<sup>557</sup> UltraViolet has partnerships with several EST services, including Best Buy's CinemaNow and Walmart's Vudu, but lacks ties to iTunes.<sup>558</sup> Neither Walt Disney Studios nor Apple participates in UltraViolet.<sup>559</sup> Through the Disney Movies Anywhere app, consumers can purchase copies of movies from the Disney Studio using their iTunes, Google Play, or VUDU accounts.<sup>560</sup> Purchasing digital copies of movies and television programs, unlike DVDs and Blu-ray discs, does not necessarily mean that buyers will always be able to view the programs.<sup>561</sup>

174. Apple's iTunes, Amazon's Prime Instant Video, and Wal-Mart's Vudu offer the largest EST catalogs, but most major providers offer the most recent and popular movies and television series that are in high demand from consumers.<sup>562</sup> As discussed in Table III.C.1 below, prices are roughly the same across services, with newer HD releases the most expensive.<sup>563</sup>

175. *Rental.* Rental, or online VOD services, allow consumers to stream or download content from a central source to a PC, set-top box, or other device. Viewers can then view the content as often as they wish within a defined period, for instance 24 hours. People tend to watch less content on a rental basis than on a subscription basis, given the requirement to pay for each title. Prices for rentals are generally consistent among OVDs, ranging from free, for promotional videos or older titles, to \$12.00 for new releases. As of 2014, several major OVDs have opted to focus exclusively on movie rentals and do not offer television programs for rent.<sup>564</sup> In contrast to their approach with streaming subscription services, major studios and distributors typically make their movies available to all rental OVD services,

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<sup>553</sup> *Id.*

<sup>554</sup> Apple, *Use Home Sharing to share iTunes content with other devices*, Dec. 15, 2015, <https://support.apple.com/en-us/HT202190>.

<sup>555</sup> Deanna Myers, *Cloud Technology, Early Windows Boost Digital Sales*, SNL KAGAN, Jan. 10, 2014.

<sup>556</sup> *2015 State of Online Video Delivery* at 14.

<sup>557</sup> UltraViolet, *Where to Watch*, <https://www.myuv.com/en/nz/where-to-watch> (last visited Jan. 19, 2016).

<sup>558</sup> *Id.* Sony Pictures Store, *Watch Anywhere, Across Your Favorite Devices*, <http://www.sonypicturesstore.com/about.html> (last visited Jan. 19, 2016).

<sup>559</sup> *Id.*

<sup>560</sup> *2015 State of Online Video Delivery* at 14.

<sup>561</sup> Vince Horiuchi, *What You Buy from iTunes Isn't Really Yours*, THE SALT LAKE TRIBUNE, Nov. 11, 2013.

<sup>562</sup> *2015 State of Online Video Delivery* at 12-13.

<sup>563</sup> *Id.*

<sup>564</sup> *Id.* at 10.

so there is little difference among rental OVDs in this respect.<sup>565</sup> In addition, the total library size for rental OVDs is less important than it is for subscription OVDs, because customers must pay for each movie watched.

**Table III.C.1**  
**Select EST/ Rental OVD Services<sup>566</sup>**

	<b>Amazon Instant Video</b>	<b>CinemaNow</b>	<b>Google Play</b>	<b>iTunes</b>	<b>VUDU</b>	<b>YouTube</b>
<b>Cost</b>	TV Episodes <sup>567</sup> : \$1.99 - \$5.99; Movie Rental: \$1.99- \$6.99, Purchase: \$5.99 - \$20.99	TV Episodes: \$1.99 - \$2.99; Movie Rental: \$2.99- \$5.99, Purchase: \$10 - \$24	TV Episodes: \$1.99 - \$2.99; Movie Rental: \$2.99- \$5.99, Purchase: \$7.99 - \$19.99	TV Episodes: \$1.99 - \$3.99; Movie Rental: \$0.99- \$9.99, Purchase: \$7.99 - \$19.99	TV Episodes: \$1.99 - \$3.99; Movie Rental: \$2.99- \$11.99, Purchase: \$9.99 - \$22.99	TV Episodes: \$1.99 - \$6.99; Movie Rental: \$1.99- \$5.99, Purchase: \$5.99 - \$19.99
<b>No. of Television Seasons</b>	12,761	>480	-	9,086	5,071	-
<b>No. of Movies</b>	40,889	>9,800	Thousands <sup>568</sup>	17,643	17,784	Thousands
<b>Devices or Platforms on Which OVD Can Be Accessed</b>	devices with iOS (Apple) and Android (Google) operating systems, game consoles, smart TVs, Blu-ray players, streaming media players	devices with iOS (Apple) and Android (Google) operating systems, Xbox 360, PS3, Western Digital TV Media Player, smart TVs, Blu-ray players	Android, Google TV	iOS, Apple TV	devices with iOS (Apple) and Android (Google) operating systems, Xbox One, PS4, Chromecast, Roku, smart TVs, Blu-ray players	devices with iOS (Apple) and Android (Google) operating systems, Xbox One, PS3, Wii U, smart TVs, Chromecast, Roku, Apple TV

<sup>565</sup> *Id.* at 8.

<sup>566</sup> *See OTT Aggregators.*

<sup>567</sup> Figures reflect purchase price, not rental price. *Id.*

<sup>568</sup> The total number of television seasons and movies have not been reported individually, but rather as “Thousands of Estimate Number of Titles.” *Id.*

176. *Subscription.* Subscription OVDs charge users monthly or annual fees for the right to stream content. The general entertainment subscription OVDs negotiate with studios, cable networks, and broadcast networks to license the distribution rights for movies and television series. Among the subscription services shown in Table III.C.2, only Hulu Plus includes advertising. Subscription OVDs negotiate for older television series and the rights to movie studios' entire film libraries.<sup>569</sup> Some, particularly Hulu Plus, also provide in-season next-day access to some television series (similar to MVPDs' VOD services).<sup>570</sup> Licensing agreements may be exclusive to OVDs or non-exclusive, depending on the distribution window.<sup>571</sup> Movie and television studios are cautious in licensing content to subscription services, for fear of cannibalizing revenues from DVD and Blu-ray sales.<sup>572</sup> Thus, many new movie releases are not available via subscription OVDs, or are subject to 28 to 90-day delay windows.<sup>573</sup>

**Table III.C.2**  
**Select Subscription OVD Services: General**<sup>574</sup>

	<b>Netflix</b>	<b>Hulu Plus (ABC, FOX, NBC)</b>	<b>Amazon Prime Instant Video</b>
<b>Price per Month</b>	\$8.99 - \$11.99 <sup>575</sup>	\$7.99	N/A
<b>Price Per Year</b>	-	-	\$99.00 <sup>576</sup>

<sup>569</sup> Seth Shafer, *State of OTT Video Services: Subscription*, SNL KAGAN, June 6, 2013 (*State of OTT Subscription Video Services*). MVPDs are negotiation for such rights as well. For example in May 2014 Comcast and Time Warner Inc.'s Turner Broadcasting reached an agreement to make complete current and past seasons of some series, *i.e.*, "stacking rights" available on Comcast's video services, including video on demand service. Deanna Myers, *Stacking Deal for TVE/VOD at Turner-Comcast*, SNL KAGAN, May 29, 2014. Netflix has threatened to pay content owners who make such deals with MVPDs substantially less for stacking rights, claiming that the availability of past seasons of programs on MVPDs diminishes their value to OVDs. Nonetheless, the Turner Network division may be willing to risk earning less from OVDs, if providing stacking rights enables MVPDs to retain subscribers, since it earns more revenue overall from MVPDs. *Id.*

<sup>570</sup> Sergio Martinez, *Online TV: Netflix, Amazon Prime and Hulu Plus Compete*, THE STATE PRESS: ARIZONA STATE UNIVERSITY, Jan. 23, 2014.

<sup>571</sup> For example, in December 2012, Netflix and the Walt Disney Company announced a new multi-year agreement making Netflix the exclusive U.S. subscription television service for first-run live-action and animated movies from the Walt Disney Studios. Netflix Inc., *Netflix and the Walt Disney Studios Announce Multi-Year Premium Pay TV Window Agreement in the United States* (press release), Dec. 4, 2012. The new releases became available in 2016, when Disney's agreement with the premium cable network Starz ended. In addition, Netflix currently is allowed to stream Disney's library titles and direct-to-video new releases.

<sup>572</sup> *State of OTT Subscription Video Services.* Similarly, as subscription, advertising, and licensing revenues for streaming music services have increased, sales of digital albums and songs have decreased. Ananth Baliga, *Sources: Apple Mulling Spotify-like Streaming Service*, UPI, March 24, 2014.

<sup>573</sup> *State of OTT Subscription Video Services.*

<sup>574</sup> *OTT Aggregators.*

<sup>575</sup> Netflix has two plans: \$8.99/month for up to two concurrent streams and an \$11.99/month plan that allows four concurrent streams. *Id.*

**Table III.C.2**  
**Select Subscription OVD Services: General**<sup>574</sup>

	<b>Netflix</b>	<b>Hulu Plus (ABC, FOX, NBC)</b>	<b>Amazon Prime Instant Video</b>
<b>No. of Television Seasons</b>	3,431	3,273	2,039
<b>No. of Movies</b>	6,578	4,924	15,276
<b>Advertiseme nts</b>	No	Yes	No
<b>Devices or Platforms on Which OVD Can Be Accessed</b>	devices with iOS (Apple) and Android (Google) operating systems, game consoles, smart TVs, Blu-ray players, streaming media players	devices with iOS (Apple) and Android (Google) operating systems, game consoles, smart TVs, Blu-ray players, streaming media players	devices with iOS (Apple) and Android (Google) operating systems, game consoles, smart TVs, Blu-ray players, streaming media players

177. Several major professional sports leagues also offer subscription OVD services for live-viewing of full-length games outside of a game's local television market at various prices.<sup>577</sup> The games are available for viewing on several devices at various prices. Most include access to regular-season games only. MLB.TV offers a regular service for \$19.99 per month (\$109.99 per baseball season) allowing PC-access to all regular-season games. For \$24.99 per month (\$129.99 per season) viewers can watch baseball games on a variety of devices and have access to the MLB at Bat service. For NHL games, subscribers can pay \$159.99 a season to \$169 a season to watch games on a variety of devices depending on their purchase date. For NBA games, subscribers can pay \$33.00 per month to \$45.99 per month (\$149.99 per season to \$199 per season) to watch games on a variety of devices, including mobile devices, PCs, and Internet-enabled television sets. MLS Live offers access to soccer games for \$15.99 per month (\$74.99 annually) on mobile devices, PCs, and Roku boxes.

(Continued from previous page)

<sup>576</sup> Amazon Prime Instant Video service is included with the Amazon Prime yearly membership. An Amazon Prime membership includes, among other things, free two-day shipping, Prime Music, Prime Photo, Prime Pantry, Kindle Owners Lending Library, and Kindle First. Amazon.com, *Amazon Prime*, [http://www.amazon.com/gp/help/customer/display.html/ref=hp\\_left\\_v4\\_sib?ie=UTF8&nodeId=200444160](http://www.amazon.com/gp/help/customer/display.html/ref=hp_left_v4_sib?ie=UTF8&nodeId=200444160) (last visited March 10, 2015). Student memberships cost \$49 per year. Amazon.com, *Help & Customer Service: Amazon Prime and Amazon Student Prime Membership Fee Charges* <http://www.amazon.com/gp/help/customer/display.html?nodeId=201482600> (last visited March 10, 2015).

<sup>577</sup> 2015 *State of Online Video Delivery* at 18-19.

**Table III.C.3**  
**Subscription OVD Services: Sports**<sup>578</sup>

	<b>MLB.TV/ MLB.TV Premium</b>	<b>NHL GameCenterLive</b>	<b>NBA League Pass</b>	<b>MLS Live</b>
<b>Price</b>	\$19.99/month - \$24.99/month or \$109.99/season - \$129.99/season	\$159/season - \$169/season	\$33.00/month - \$45.99/month or \$149.99/season - \$199.00/season <sup>579</sup>	\$15.99/month or \$74.99/annual
<b>Months in Season</b>	8	9	9	9
<b>HD Service</b>	Yes	No	Yes	Yes
<b>Devices or Platforms on Which OVD Can Be Accessed</b>	MLB.TV: personal computers; MLB.TV Premium: over 400 supported devices <sup>580</sup>	devices with iOS (Apple) and Android (Google) operating systems, PlayStation 4 and PlayStation Vita game consoles (Sony), Xbox 360 game console (Microsoft), Roku and Apple TV streaming media players.	devices with iOS (Apple) and Android (Google) operating systems, PlayStation game consoles (Sony), Xbox game consoles (Microsoft), Roku and Apple TV streaming media players.	Personal computers, devices with iOS (Apple) and Android (Google) operating systems, Apple TV, streaming media players <sup>581</sup>

178. *Advertising-Supported.* Advertising-supported OVDs make their content available by streaming, and incorporate video commercials within the programming. The number of movies and television series available on purely advertising-supported sites is much smaller than the number available on OVDs that directly charge consumers. Portal sites from ABC, CBS, FOX, and NBC, as well as Viacom's cable networks (*e.g.*, Comedy Central and MTV) are also advertising-supported.

<sup>578</sup> Kellys Panno, Brian Bacon and Adam Gajo, *The 2015 Cord-Cutters Guide to Sports Apps*, SNL Kagan: Wireless Investor, July 15, 2015.

<sup>579</sup> NBA League Pass has two packages, one that allows users to watch out-of-market games for five teams and a second that allows access to all 30 teams.

<sup>580</sup> Major League Baseball, *MLB.TV*, [http://mlb.mlb.com/mlb/subscriptions/index.jsp?content=products&c\\_id=mlb](http://mlb.mlb.com/mlb/subscriptions/index.jsp?content=products&c_id=mlb) (last visited Nov. 16, 2015).

<sup>581</sup> Major League Soccer, *MLS Live: Frequently Asked Video Player Questions*, <http://live.mlssoccer.com/mlsmdl/help.jsp> (Nov. 16, 2015).

**Table III.C.4**  
**Advertiser-Supported OVD Services**<sup>582</sup>

	<b>Crackle (Sony)</b>	<b>Hulu (ABC, FOX, NBC)</b>	<b>Viewster (Freemantle Media, BBC)</b>
<b>No. of Television Seasons</b>	60	3,273 <sup>583</sup>	thousands
<b>No. of Movies</b>	150	4,924	
<b>Advertisements</b>	yes	yes	yes
<b>HD Service</b>	no <sup>584</sup>	no <sup>585</sup>	
<b>Devices or Platforms on Which OVD Can Be Accessed</b>	devices with iOS (Apple) and Android (Google) operating systems, Nook tablet, Kindle Fire, Windows Phone, Roku, Apple TV, Chromecast, Amazon Fire TV, PS3, PS4, Xbox 360, Xbox One, smart TVs	desktop and laptop computers (including Apple), devices with Android operating system	iOS, Android, Roku, Boxee, smart TVs

179. *Additional Non-Price Factors:* For consumers, key points of non-price rivalry include the depth of the content library, release dates of content, the availability of original programming, picture quality, the ability to discover available content, and the ability to watch OVDs on a variety of devices. OVDs also differentiate themselves in terms of the amount of advertising the viewer sees. OVDs like Crackle charge no subscription fees but intersperse advertisements in programs. An emerging feature is the availability of family-friendly movies. For advertisers, key aspects of non-price rivalry include the quality of the programming (whether association with the programming could enhance or harm a brand), the ability to measure viewership, the size of OVDs' audiences, and the ability to target audiences with relevant advertising.

180. *Consumers.* The on-demand libraries of Netflix, Amazon, Hulu, and other OVDs that license content from studios and networks offer consumers a range of choices from the latest hits to older movies and television programs. AT&T notes that some OVD services provide a channel-oriented

<sup>582</sup> *OTT Aggregators.*

<sup>583</sup> The number of television seasons and movies available listed includes those for Hulu Plus. The purely advertising-supported Hulu site has far fewer television series and movies in its catalog. Ali Choukeir, *The State of Online Video: Ad-Supported*, SNL KAGAN, Sept. 19, 2013.

<sup>584</sup> Gadget Review, *Netflix vs Crackle Comparison*, <http://www.gadgetreview.com/netflix-vs-crackle> (last visited Nov. 16, 2015).

<sup>585</sup> HD quality video is available only to Hulu Plus subscribers. Hulu, *Help: Finding Hulu Plus and HD Videos on Hulu.com*, <http://www.hulu.com/support/article/203238> (last visited Jan. 20, 2016).

experience.<sup>586</sup> Studios, looking to maximize their home video revenues, tend to negotiate non-exclusive EST/rental agreements, similar to their practice for DVD and Blu-ray distribution in retail stores.<sup>587</sup> Studios are increasingly distributing movies via EST services earlier than on DVD and Blu-ray discs.<sup>588</sup>

181. Premium cable networks state that taken all together they have more movies and earlier distribution windows than subscription OVDs, such as Netflix.<sup>589</sup> Subscription OVDs are differentiated by the depth of their libraries as well as video quality and number of available streams.<sup>590</sup> Because subscriptions offer multiple episodes of a television series, they allow consumers to engage in binge viewing.

182. In addition, a number of OVDs are investing in original programming to distinguish themselves from their competition.<sup>591</sup> Analysts suggest this strategy is a response to the increasing scarcity of exclusive content and allows providers to differentiate themselves from competitors.<sup>592</sup> OVDs use different methods to commission original programming. Amazon commissions pilot episodes of original series, and bases its orders for full series on viewer feedback.<sup>593</sup> Sony, rather than developing a range of shows, is releasing one series to appeal to its core customers, who are primarily interested in using the console to play games.<sup>594</sup> Netflix also uses data to determine which programs to license.<sup>595</sup> In addition to commissioning programming through the traditional development process, Hulu is now focusing on selling sponsorships to advertisers for original content rather than pitching ideas for programming that will only get made if advertisers are willing to support them (called “brand contingent” programs).<sup>596</sup>

183. The term “discovery” refers to an OVD’s ability to identify and highlight content that might be of interest to a consumer in a convenient manner.<sup>597</sup> Ericsson, a provider of communications technology and services, reports that half of consumers watching linear television cannot find a suitable program to watch, and that 31 percent of consumers would like recommendations based on previous

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<sup>586</sup> AT&T Comments at 6.

<sup>587</sup> Marc Graser and Susanne Ault, *Bringing Any to the Many*, VARIETY, March 21, 2010. Warner Brothers, however, experimented with giving iTunes a two-week period of exclusivity to sell the movie *42* in 86 countries where the movie did not appear in theaters. Susanne Ault, *Early Electronic Sell-Through (EST) is a Digital Window Where Top Films are Finding Traction*, VARIETY, Sept. 8, 2013.

<sup>588</sup> Ali Choikeir, *State of Online Video: Electronic sell-through*, SNL Kagan Economics of Internet Media, Aug. 7, 2014.

<sup>589</sup> Anthony D'Alessandro, *Produced By: Top Cable Executives Undeterred By Netflix*, DEADLINE, June 7, 2014.

<sup>590</sup> *2015 State of Online Video Delivery* at 7-8.

<sup>591</sup> *Id.* at 9. See also AT&T Comments at 9-10.

<sup>592</sup> *2015 State of Online Video Delivery* at 2.

<sup>593</sup> Cynthia Littleton, *Amazon Execs Talk Woody Allen, 'Top Gear' Trio and Why They Didn't Save 'Hannibal'*, VARIETY, Aug. 3, 2015, <http://variety.com/2015/tv/news/bosch-amazon-tca-most-watched-series-1201555399/>.

<sup>594</sup> *16th Report*, 30 FCC Rcd at 3389, para. 286.

<sup>595</sup> Harsha Hedge, *Netflix and its Revolutionary Use of Big Data*, Sept. 22, 2014.

<sup>596</sup> Tim Peterson, *Hulu Restructures Brand-Content Team as Division's Head Departs*, ADVERTISING AGE, Nov. 7, 2014. See also *16th Report*, 30 FCC Rcd at 3389, para. 286.

<sup>597</sup> Chuck Parker, *Why Discovery is So Hard to Implement; Enabling Technology*, THE ONLINE REPORTER, May 4, 2012.

viewing habits and demographics.<sup>598</sup> The ability of OVDs to facilitate consumer discovery of programs varies.<sup>599</sup> For example, Netflix's recommendation engine, search capabilities, and social media features aim to match subscribers with content choices that a specific subscriber might enjoy.<sup>600</sup> Netflix also allows individual members of a household to create separate profiles.<sup>601</sup> Other services, such as Amazon and iTunes, also offer personalized profiles of the consumers, but each OVD's profile is proprietary.<sup>602</sup>

184. As the availability of content on OVDs becomes more fragmented, discovering the content becomes more difficult for consumers.<sup>603</sup> Advertising-supported TV.com and M-Go EST/rental OVD enable consumers to search across multiple OVDs.<sup>604</sup> The website "canistream.it" enables consumers to search across multiple OVDs to see which movies and television shows are available for viewing, regardless of the source, and to set up notifications when selected content becomes available.<sup>605</sup>

185. OVDs also vary in their picture quality. For example, none of the major advertiser-supported OVDs offers HD service. Among subscription OVDs, Netflix, Hulu, and Amazon Prime offer HD service in 1080p.<sup>606</sup> Most major EST and rental OVD services offer HD service; several offer videos in 1080p.<sup>607</sup> Sony's Video Unlimited 4K EST/rental service offers movies and television programs in 4K Ultra HD format on Sony's 4K Ultra HD Media Player and televisions.<sup>608</sup> Both Netflix and Amazon have made their original series available in 4K.<sup>609</sup>

186. For many OVDs, the ability to view content on multiple devices is another key factor in non-price rivalry and a way to distinguish their products in the marketplace. SNL Kagan estimates that in 2014, 90.9 million U.S. households were equipped with high-speed data video and these households used an average of 7.3 Internet-connected devices (*i.e.*, game consoles, streaming media players, Internet-connected television sets and Blu-ray players, tablets and home computers).<sup>610</sup> SNL Kagan contends that

<sup>598</sup> Ericsson Consumerlab, *TV and Media 2015: The Empowered TV and Media Consumer's Influence*, Sept. 2015, at 10.

<sup>599</sup> Chuck Parker, *Why Discovery is So Hard to Implement; Enabling Technology*, THE ONLINE REPORTER, May 4, 2012. See also TV.COM, <http://www.tv.com/shows/masterpiece-theatre/watch/> (last visited June 18, 2014) (directing visitors to watch the full-length episodes of the PBS television series *Masterpiece Theater (Classic)* on Netflix, and informing them that other OVDs do not offer the series).

<sup>600</sup> Netflix, *Help Center: Netflix Ratings & Recommendations*, <https://help.netflix.com/en/node/9898> (last visited Jan. 20, 2016). Netflix Comments at 3-4.

<sup>601</sup> Netflix, *Help Center: Personalize Netflix*, <https://help.netflix.com/en/node/16284?catId=en%2F131> (last visited Jan. 20, 2016). See *16th Report*, 30 FCC Rcd at 3389-3390, para. 287.

<sup>602</sup> See *16th Report*, 30 FCC Rcd at 3390, para. 287.

<sup>603</sup> See *id.* at 3390, para. 288.

<sup>604</sup> Dawn C. Chmielewski, *Services Aim to Simplify Search*, L.A. TIMES, Jan. 10, 2013.

<sup>605</sup> Urban Pixels, *Can I Stream.it?: How Can I Stream It? Works*, <http://www.canistream.it/#howItWorks> (last visited Jan. 21, 2016).

<sup>606</sup> Marshall Honorof, *Netflix vs. Hulu vs. Amazon Prime: Streaming Showdown*, Nov. 25, 2015, <http://www.tomsguide.com/us/netflix-amazon-face-off,news-17838.html>.

<sup>607</sup> *2015 State of Online Video Delivery* at 10. Google, *Google Play Help: HD movie & TV show availability*, <https://support.google.com/googleplay/answer/2528768?hl=en> (last visited Jan. 21, 2016).

<sup>608</sup> Steven Cohen, *High-Def Digest's Guide to 4K Ultra HD Content & Devices*, High-Def Digest, Feb. 5, 2015.

<sup>609</sup> *Id.* Netflix encodes the 4K streams at 15.6 Mbps and recommends users have at least a 25 Mbps Internet connection.

<sup>610</sup> SNL Kagan, U.S. Connected Video Devices, 2010-2019, Sept. 23, 2015 (Excel spreadsheet).

the pervasiveness of connected devices eliminates a barrier to OVD marketplace entry and represents new opportunities for OVD expansion.<sup>611</sup>

187. Both Crackle and Hulu have stated that a substantial number of their viewers watch on non-PC devices.<sup>612</sup> For example, in the third quarter of 2014, 20 percent of video streams were on mobile devices and 61 percent on connected televisions.<sup>613</sup> In 2014, Crackle executives stated that viewing was evenly distributed over PCs, mobile devices, and streaming-video devices.<sup>614</sup> In contrast, 75 percent of Viewster's views were on mobile devices, with 50 percent of viewers accessing content from a mobile device.<sup>615</sup>

188. *Advertisers.* Online video ads enable advertisers to gather information and details about the extent to which customers interact with their brands that are not always readily available with traditional media.<sup>616</sup> Because online advertising and traditional television advertising use different ratings metrics, calculating an advertising campaign's total reach and frequency across different platforms is difficult.<sup>617</sup> Debate remains whether advertising viewed on OVD sites should be measured in the same manner as advertising aired on traditional television, particularly as OVDs seek a larger share of total advertising budgets.<sup>618</sup> Some advertising-supported OVDs, including Hulu and Crackle, present their original online programming in the annual Digital Content NewFronts presentation.<sup>619</sup> Reports indicate that despite the proliferation of professionally produced online video programming some marketers are reluctant to purchase advertising in such shows due to small audiences and high prices, relative to traditional television.<sup>620</sup> Websites, in contrast to broadcast and cable networks, often seek advertisers to

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<sup>611</sup> Ian Olgeirson & Deana Myers, *Service Providers Lessen OTT Substitution, but Challenges Persist*, SNL KAGAN, Sept. 11, 2012. See also Table III.C.4 above, listing examples of number of devices.

<sup>612</sup> Seth Shafer, *Viewster Gains but Hulu Still Rules OTT Ad-Supported Streaming Video Market*, SNL KAGAN, Jan. 29, 2014.

<sup>613</sup> SNL Kagan, Profile: Hulu, April 1, 2015.

<sup>614</sup> David Bloom, *David Bloom Has Crackle Cracked the Code For Over-The-Top Content Companies?*, Deadline, Sept. 4, 2014, <http://deadline.com/2014/09/crackle-jesse-bradford-jerry-seinfeld-eric-berger-sony-pictures-tv-832998/>.

<sup>615</sup> SNL Kagan, Profile: Viewster, July 9, 2015.

<sup>616</sup> See, e.g., Nicole Rawski, *How to Really Measure Engagement*, iMEDIA CONNECTION, June 15, 2012, <http://www.imediaconnection.com/content/32065.asp> (last visited Nov. 19, 2012).

<sup>617</sup> Jeanine Poggi, *Nielsen Marries TV, Online Ratings*, ADVERTISING AGE, Oct. 1, 2012, <http://adage.com/article/media/nielsen-marries-tv-online-ratings/237516/> (last visited Nov. 7, 2012). The key television ratings metric for advertisers is the "C3 rating," a measurement of network television commercials watched live and on DVRs within three days of their original airing. See *16th Report*, 30 FCC Rcd at 3391, para. 292. For online viewing to be included in a program's C3 television viewing, a network must include the same set of commercials in the program online that it includes on air. See *16th Report*, 30 FCC Rcd at 3391, para. 292.

<sup>618</sup> See *id.* at 3391, para. 293. Some say that using a common currency could dilute what makes each medium unique. Paul Heine, *Is This the Long-Awaited Answer to Measuring Video Viewers Everywhere They're Watching*, ADWEEK, March 23, 2014, <http://www.adweek.com/news/advertising-branding/long-awaited-answer-measuring-video-viewers-everywhere-they-re-watching-156457>.

<sup>619</sup> See *16th Report*, 30 FCC Rcd at 3392, para. 293. The presentations, which take place in April, are modeled after the May broadcast and cable network "upfront" presentations to encourage advertisers to buy commercial time ahead of the fall television season.

<sup>620</sup> Emily Steel, *Online Originals Face Battle to Win Over Advertisers' Hearts*, FINANCIAL TIMES, Apr. 18, 2014; Tim Peterson, *Newfront Sellers Take Page from TV*, ADVERTISING AGE, Apr. 7, 2014.

sponsor entire series (*i.e.*, purchase all of the commercials in the show), potentially for \$2 million to \$3 million.<sup>621</sup> In 2014, however, some sites developed new selling strategies, offering media buyers the opportunity to purchase a package of programs with similar audiences, enabling advertisers to reduce their risk.<sup>622</sup>

189. Prices of television commercials are based on the cost of delivering 1,000 impressions (cost per thousand, or CPM) nationally, and cost per point locally.<sup>623</sup> While online advertising also uses pricing based on CPMs, prices may also be based on an advertisement's performance.<sup>624</sup> With this pricing model, advertisers pay based on a set of agreed upon performance criteria, such as a percentage of online revenues or delivery of new sales leads.<sup>625</sup> The Interactive Advertising Bureau (IAB) reports that performance-based pricing has grown increasingly popular, representing 66 percent of Internet advertising revenue in 2014, a one percent increase from 2013.<sup>626</sup> CPM-based pricing remained steady at 33 percent of Internet advertising revenues between 2013 and 2014.<sup>627</sup>

190. According to the research firm SQUAD, in 2014 to reach 1,000 adults 18-49 years old, an in-stream online ad cost an average CPM of \$24.20.<sup>628</sup> This compares with cable and broadcast network rates of \$15.11 and \$43.06 respectively to reach 1,000 adults 18-49 years old.<sup>629</sup> Although Hulu does not release its CPMs, reports indicate that Hulu charged \$35 for a thousand impressions for their standard run-in-site in-stream ads, and required at least two ads per campaign.<sup>630</sup> In traditional television, Nielsen ratings are the sole currency for advertisers.<sup>631</sup> For online video, Nielsen and comScore are the major ratings services. Because they use different methodologies, however, their results differ.<sup>632</sup> In February 2011, three advertising trade groups launched an initiative called "Making Measurement Make Sense" to

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<sup>621</sup> Tim Peterson, *Newfront Sellers Take Page from TV*, ADVERTISING AGE, Apr. 7, 2014.

<sup>622</sup> *Id.*

<sup>623</sup> See *16th Report*, 30 FCC Rcd at 3392, para. 294.

<sup>624</sup> Online advertisers may also use a hybrid of impression- and performance-based pricing models.

<sup>625</sup> See *16th Report*, 30 FCC Rcd at 3392, para. 294.

<sup>626</sup> Interactive Advertising Bureau, Interactive Advertising Bureau, *IAB Internet Advertising Revenue Report, 201 Year End Results*, April 2015, at 18, [http://www.iab.net/media/file/IAB\\_Internet\\_Advertising\\_Revenue\\_Report\\_FY\\_20142.pdf](http://www.iab.net/media/file/IAB_Internet_Advertising_Revenue_Report_FY_20142.pdf)

<sup>627</sup> *Id.*

<sup>628</sup> SQUAD, *SQUAD Analysis: In-Stream Video Ads 60% More Expensive than Cable TV Ads in 2014* (Press Release), April 7, 2015.

<sup>629</sup> *Id.*

<sup>630</sup> ADVERTISING AGE, *What It Costs: Ad Prices From TV's Biggest Buys to the Smallest Screens*, <http://adage.com/article/news/costs-ad-prices-tv-mobile-billboards/297928/> (last visited March 9, 2016).

<sup>631</sup> *Watching the TV Watchers*, DAILY VARIETY, Jan. 12, 2011, at 8.

<sup>632</sup> Cotton Delo, *Your Guide to Who Measures What in the Online Space*, ADVERTISING AGE, Sept. 19, 2011, <http://adage.com/article/media/guide-measures-online-space/229858/> (last visited Nov. 7, 2012). Nielsen and comScore have traditionally measured online viewing using large panels of consumers who participate voluntarily, and then project the behavior to the entire population based on demographic variables. Michael Depp, *Online Metrics Inch Closer to Standardization*, NETNEWSCHECK, Dec. 4, 2011, <http://www.netnewscheck.com/article/15811/online-metrics-inch-closer-to-standardization> (last visited Nov. 7, 2012).

standardize online measurement metrics.<sup>633</sup> In August 2011, Nielsen launched its Online Campaign Ratings service, which subsequently became the first Internet measurement service to provide demographic ratings for online advertising campaigns with certain metrics comparable to those used for television advertising.<sup>634</sup> In September 2012, The CW became the first television network to sign on with Nielsen Online Campaign Ratings, guaranteeing advertisers that they will reach a minimum number of targeted viewers during the 2012-2013 television season.<sup>635</sup> The ABC networks group, representing the Walt Disney Company-owned ABC stations and cable networks, followed suit in March 2013.<sup>636</sup>

191. Another challenge facing advertising-supported OVDs, particularly those featuring programming from broadcast and cable networks, is the inability to track viewers of a single program across a range of devices. Both Nielsen and comScore are developing methods to include mobile devices in their ratings. Nielsen intends to add viewing on mobile devices to its C3 television ratings for the 2014-2015 television season.<sup>637</sup> Throughout 2013, comScore worked with ESPN and the Coalition for Innovative Media Measurement (CIMM) to test a system that tracks video, audio, and text across television, radio, computers, smartphones, and tablets.<sup>638</sup> In April 2015, comScore and CIMM announced the availability of cross-media measurement data for 11 CIMM member companies, including A&E Networks, CBS Corporation, Disney ABC Television Group, ESPN, Fox Networks.<sup>639</sup> According to comScore, the data provides measurement of a network's reach on video, audio, and static/interactive content and ads across various platforms and devices both on a linear and time-shifted basis.<sup>640</sup>

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<sup>633</sup> The trade groups are the Interactive Advertising Bureau (IAB), The Association of National Advertisers (ANA), and the American Association of Advertising Agencies (4A's). IAB, ANA, 4A's, IAB, ANA, & 4A's Join Forces to "Make Measurement Make Sense" – *Leading Trade Groups Take on Top Industry Challenge* (press release), Feb. 28, 2011.

<sup>634</sup> Nielsen, *The CW to Use Nielsen Online Campaign Ratings for All Online Audience Guarantees* (press release), Sept. 27, 2012.

<sup>635</sup> *Id.* If the guarantees fall short, The CW will include inventory on its website along with inventory on its linear network in its make-goods. Jeanine Poggi, *Nielsen Marries TV, Online Ratings*, ADVERTISING AGE, Oct. 1, 2012, <http://adage.com/article/media/nielsen-marries-tv-online-ratings/237516/> (last visited Nov. 7, 2012). A make-good is an offer by a television network to rerun a commercial, at no additional charge. The second airing of the commercial is generally of value equal to or greater than the original placement and used to compensate advertisers for unanticipated ratings that fall short of the rating which the network originally guaranteed. Occasionally a television network will return cash to the advertiser instead. Vogel at 577.

<sup>636</sup> Bill Carter, *ABC Networks Will Offer Guarantees to Advertisers Across Platforms*, N.Y. TIMES, Mar. 4, 2013, [http://mediadecoder.blogs.nytimes.com/2013/03/04/abc-networks-will-offer-guarantees-to-advertisers-across-platforms/?\\_php=true&\\_type=blogs&\\_r=0](http://mediadecoder.blogs.nytimes.com/2013/03/04/abc-networks-will-offer-guarantees-to-advertisers-across-platforms/?_php=true&_type=blogs&_r=0) (last visited Aug. 19, 2014).

<sup>637</sup> Paul Heine, *Is This the Long-Awaited Answer to Measuring Video Viewers Everywhere They're Watching*, ADWEEK, Mar. 23, 2014, <http://www.adweek.com/news/advertising-branding/long-awaited-answer-measuring-video-viewers-everywhere-they-re-watching-156457>.

<sup>638</sup> *Id.*

<sup>639</sup> comScore, *comScore, in Collaboration with CIMM, Unveils First Look at Cross-Media Measurement Data for 11 CIMM Member Companies* (Press Release), Apr. 22, 2015.

<sup>640</sup> *Id.*

#### 4. Select OVD Operating Statistics and Financial Performance

192. Due to data limitations, our analysis of OVD performance is limited to that of a few of the most widely recognized industry players and is not intended to be a comprehensive assessment of the entire OVD industry. With these limitations, we describe consumer usage of OVDs, as well as OVD viewership, subscribership, revenue, investment, and profitability.<sup>641</sup>

##### a. OVD Usage, Viewership, and Subscribership

193. *Consumer Usage.* Nielsen reports that, during the fourth quarter of 2014, the average American spent about one hour and nine minutes per week using a DVD/Blu-ray device, 47 minutes a week using a multimedia device, and one hour and 47 minutes per week using a game console, compared to an average of one hour and ten minutes per week using a DVD/Blu-ray device and one hour and 43 minutes per week using a game console in 2013.<sup>642</sup> Adobe Systems, which publishes quarterly reports about U.S. online video consumption, found that, during the third quarter of 2015, 18.1 percent of online video starts were viewed on smartphones, compared with 13.6 percent during the third quarter of 2014; 12.6 percent of video starts were viewed on tablets, compared with 13.5 percent during the third quarter of 2014.<sup>643</sup> The share of TV Everywhere authentications by gaming consoles stayed steady at two percent between the third quarters of 2014 and 2015.<sup>644</sup>

194. In previous Reports, we have noted that the amount of time consumers spend watching online video varies by age, gender, ethnicity, life-stage, and lifestyle.<sup>645</sup> For the fourth quarter of 2014, Nielsen data indicate similar variations in viewing patterns. Adults aged 65 years or older spend the most time watching traditional television – more than 50 hours per week in the fourth quarter of 2014 and 2013 compared with an average of 32 hours and 5 minutes per week for all Americans in 2014 and 33 hours and 35 minutes in 2013.<sup>646</sup> In addition, on average, Americans watched three hours and 19 minutes per week of time-shifted television, spent four hours and 24 minutes per week using the Internet, and one hour and eight minutes per week watching video on the Internet in 2014, compared to three hours and 12 minutes of time-shifted television, four hours and six minutes using the Internet, and 50 minutes watching video on the Internet in 2013.<sup>647</sup> Adults aged 18-24 and 25-34 spent the most time watching online video – more than 100 minutes per week with an average of 68 minutes per week for all Americans in 2014,

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<sup>641</sup> In addition, due to the limitations of available data, our performance analysis includes data regarding OVDs that distribute professionally produced as well as user-generated video content, both short-form and long-form.

<sup>642</sup> Nielsen, Total Audience Report Q42014 at 11. See *16<sup>th</sup> Report*, 30 FCC Rcd at 3394, para. 299.

<sup>643</sup> Adobe Systems Incorporated, *Adobe Digital Index Q3 2015, Digital Video Benchmark*, at 18. Adobe's sample includes more 134 billion total video starts. *Id.* at 17 (Methodology).

<sup>644</sup> *Id.* at 18 (Tables).

<sup>645</sup> See, e.g., *16<sup>th</sup> Report*, 30 FCC Rcd at 3394, para. 300.

<sup>646</sup> Nielsen, *Total Audience Report Q4 2014*, <http://www.nielsen.com/content/dam/corporate/us/en/reports-downloads/2015-reports/total-audience-report-q4-2014.pdf>, at 11, Table 1 (Nielsen Total Audience Q42014). Estimates are based on the total U.S. population over the age of two whether or not they have the technology (*i.e.*, DVRs, games consoles, etc.) in their households. *Id.* at 22-24. Nielsen, *The Cross-Platform Report, Q4 2013*, at 10, Table 1 (Nielsen Cross-Platform Report Q4).

<sup>647</sup> Nielsen Total Audience Q42014 at 11, Table 1. Data estimating the average time spent watching video on a smartphone was unavailable during the period. Nielsen Cross-Platform Report Q4 at 10, Table 1.

compared to adults aged 18-24 and 25-34 watching more than 90 minutes of online video and an average of 50 minutes for all Americans in 2013.<sup>648</sup>

195. ComScore estimates that, in December 2014, online video reached 196 million unique U.S. viewers per month compared to 188 million U.S. viewers per month in December 2013.<sup>649</sup> Nielsen reports that in 2014, people living in households with Internet connections streamed an average of 2.5 minutes per day compared to 2.8 minutes in 2013.<sup>650</sup> In contrast, people living in households with Internet connections watched an average of four hours and 11.7 minutes of television per day in 2014, compared to four hours and 25 minutes per day in 2013.<sup>651</sup> A TiVo survey of millennials indicates that 61 percent of survey respondents reported using online streaming services.<sup>652</sup> Other age groups also reported making use of these services, including Generation X (51 percent), Baby Boomers (39 percent), and members of the Silent Generation (26 percent).<sup>653</sup> The TiVo survey also states that 40 percent of millennials use a pay-TV provider, and 79 percent of them are not seriously considering canceling their service.<sup>654</sup>

196. Observers differ with respect to the degree to which consumers are replacing MVPD services with OVD services, *i.e.*, cord cutting and cord shaving. SNL Kagan states that, while the majority of U.S. households will continue to subscribe to MVPDs, the increased availability of content via OVDs – albeit in delayed distribution windows – combined with the increased availability of broadband service and Internet-enabled devices, will likely lead to increased OVD substitution over the long term.<sup>655</sup> NAB states that, in 2014, 17 percent of household cord cutters dropped their MVPD service to use over-the-air broadcast service.<sup>656</sup> NAB adds that recent data show that 46 percent of over-the-air only households watch streaming video on a computer using the Internet.<sup>657</sup>

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<sup>648</sup> *Id.* The estimates are based on the total population of the United States, including those who do not have access to online video.

<sup>649</sup> ComScore, *U.S. Digital Future in Focus (2015)* at 13, available at <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2015/2015-US-Digital-Future-in-Focus>. The estimates are based on viewing via desktop computers.

<sup>650</sup> Nielsen Total Audience Q42014 at 15, Table 5A. Nielsen Cross-Platform Report Q4 at 14, Table 5. Nielsen bases streaming and Internet measurements on the use of home personal computers exclusively (*i.e.*, the measurements exclude streaming on mobile devices, game consoles, etc.). *Id.* at 23.

<sup>651</sup> *Id.* at 15, Table 5A. Nielsen Cross-Platform Report Q4 at 14, Table 5.

<sup>652</sup> TiVo, *TiVo's Third Annual Millennial Survey Shows TV Content Still Dominates Across Generations* (Press Release), Dec. 8, 2015, <http://pr.tivo.com/press-releases/tivo-s-third-annual-millennial-survey-shows-tv-content-still-dominates-across-ge-nasdaq-tivo-1234153> (*TiVo Millennial Survey*).

<sup>653</sup> *Id.* The Silent Generation demographic includes people born between the middle of the 1920s and the early 1940s. *See, e.g.*, Neil Howe, *The Silent Generation, "The Lucky Few" (Part 3 of 7)*, Forbes, Aug 13, 2014, <http://www.forbes.com/sites/neilhowe/2014/08/13/the-silent-generation-the-lucky-few-part-3-of-7/#2715e4857a0b292772341e54>.

<sup>654</sup> *TiVo Millennial Survey*.

<sup>655</sup> *See 16<sup>th</sup> Report*, 30 FCC Rcd at 3395, para. 301.

<sup>656</sup> NAB Comments at 4-5.

<sup>657</sup> *Id.* at 5.

197. SNL Kagan estimates that 7.8 percent of occupied U.S. households watched television programs or movies via OVDs in lieu of MVPDs in 2014, an increase from 4.9 percent in 2013.<sup>658</sup> Nielsen estimates that in 2014 about 1.4 percent of U.S. television households received video exclusively through an Internet connection via a television/monitor instead of over-the-air broadcast or MVPD, compared to one percent in 2013.<sup>659</sup> Leichtman Research Group found that about 190,000 pay-TV subscribers eliminated their MVPD service in the third quarter of 2015, compared with 150,000 subscribers in the third quarter of 2014.<sup>660</sup> NAB, citing GfK's Home Technology Monitor 2015 Ownership Survey and Trend Report, states that three-quarters of television households that dropped MVPD service cited cutting costs as their reason for stopping service.<sup>661</sup> Over half (54 percent) also said they stopped MVPD service because it did not offer enough value for the cost.<sup>662</sup>

198. A survey by DigitalSmiths indicates that 16.4 percent of respondents to a fourth quarter 2014 survey reported decreasing or removing services, down from 16.6 percent in the fourth quarter of 2013.<sup>663</sup> DigitalSmiths also reports that 31.1 percent of respondents used EST/rental services in the fourth quarter of 2014 compared to 28.8 percent in 2013, while 53.3 percent of respondents used subscription OVDs in 2014 compared to 45.3 percent in 2013.<sup>664</sup> The Diffusion Group, which has tracked OVD substitution since 2010, indicates that, as of 2014, 14.8 percent of adult broadband and MVPD subscribers it surveyed said they were likely to cancel their MVPD service, compared with 15.3 percent in 2013.<sup>665</sup> NAB, citing GfK's survey, reports that among pay-TV households that kept their service, 15 percent decreased their level of service.<sup>666</sup>

199. NAB states that the GfK survey found that 59 percent of "cord nevers" report that they never expect to subscribe to MVPD service.<sup>667</sup> For the 2013-2014 television season, Nielsen compared

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<sup>658</sup> SNL Kagan, *Projected U.S. Multichannel Substitution (OTT) Households, 2014-2019* (Excel Spreadsheet), Nov. 20, 2015.

<sup>659</sup> The Nielsen Company, *Television Audience Report 2014: Universe Estimates Report*, Sept. 25, 2015 at 5. See *16<sup>th</sup> Report*, 30 FCC Rcd at 3395-3396, para. 302.

<sup>660</sup> MarketCharts staff, *Q3 Pay-TV Subscriber Trends*, Marketing Charts, Nov. 18, 2015, <http://www.marketingcharts.com/television/q3-pay-tv-subscriber-trends-61226/> (last visited Jan. 14, 2016). Data represents the 13 largest MVPD providers, which represent about 95 percent of the MVPD market.

<sup>661</sup> The Home Technology Monitor™ is an independent syndicated research service that tracks both ownership of over 100 media technology devices and services and the ways that people are using those devices in everyday life. The 2015 Ownership Survey and Trend Report is based on a survey, fielded in March and April 2015, comprised of interviews with a total of 3,122 households. NAB Comments at 4.

<sup>662</sup> NAB Comments at 4.

<sup>663</sup> DigitalSmiths, *Q4 2014 VideoTrends Report: Consumer Behavior Across Pay-TV, VOD, OTT, Connected Devices, and Content Discovery*, 2015, [http://www.digitalsmiths.com/downloads/Digitalsmiths\\_Q4\\_2014\\_Video\\_Discovery\\_Trends\\_Report-Consumer\\_Behavior\\_Across\\_Pay-TV\\_VOD\\_OTT\\_Devices\\_and\\_Content\\_Discovery.pdf](http://www.digitalsmiths.com/downloads/Digitalsmiths_Q4_2014_Video_Discovery_Trends_Report-Consumer_Behavior_Across_Pay-TV_VOD_OTT_Devices_and_Content_Discovery.pdf) at 5. DigitalSmiths is a TiVo-owned company that develops software to enable consumers to discover television programs and movies.

<sup>664</sup> *Id.* at 10-11. DigitalSmiths *Q4 2013 Trends Report* at 18.

<sup>665</sup> The Diffusion Group, *Cord Cutting Proclivities Remain Unchanged Among Adult Broadband Users* (Press Release), June 5, 2014, <http://tdgresearch.com/cord-cutting-proclivities-remain-unchanged-among-adult-broadband-users/>.

<sup>666</sup> NAB Comments at 5.

<sup>667</sup> *Id.*

cord-nevers with cord-cutters in its sample of broadband-only households.<sup>668</sup> Nielsen found that, overall, broadband-only homes tend to be younger and have lower incomes than traditional television households.<sup>669</sup> Of the cord-never homes it recruited for its sample, two-thirds have a head-of-household that is 34 years old or younger, compared with about one-third for cord-cutter homes. About 50 percent of both cord-never and cord-cutter households have annual incomes of less than \$50,000.<sup>670</sup>

200. *Audience.* Consumers have many choices when it comes to online video content.<sup>671</sup> OVDs use several metrics to measure audience size and usage of online video content, including the number of videos per viewer and the amount of time viewers spend watching.<sup>672</sup> As noted, different ratings services use different methodologies to measure viewership, leading to different rankings.<sup>673</sup>

201. *Subscribership.* As of December 31, 2014, Netflix had 37.7 million U.S. subscribers to its streaming service, approximately a 19 percent increase from 31.72 million subscribers at the end of December 2013.<sup>674</sup> The mix of Netflix's subscribers continues to change, as it continues to shift spending from the DVD-by-mail segment to spending on content and marketing for its streaming service.<sup>675</sup> Between 2013 and 2014, Netflix's DVD subscribers declined 16 percent, from 6.8 million to 5.7 million.<sup>676</sup> Netflix notes that its subscriber growth is seasonal, reflecting when consumers most frequently buy Internet-connected devices (October through March), and when they tend to increase video viewing (July through September).<sup>677</sup>

202. Hulu increased its number of subscribers for its Hulu Plus service from 5.1 million in 2013 to 6.9 million in 2014.<sup>678</sup> Amazon does not disclose the number of subscribers to its Prime service

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<sup>668</sup> Pat McDonough, Senior Vice President, Insights, the Nielsen Company, *The Changing TV Landscape*, Oct. 30, 2013 (presentation). See also Meg James, *Nielsen to Include Internet Viewers in its Definition of TV Homes*, THE LOS ANGELES TIMES, May 7, 2013, <http://www.latimes.com/entertainment/envelope/cotown/la-et-ct-nielsen-expands-definition-of-tv-home-which-top-115-million-20130507-story.html>.

<sup>669</sup> Pat McDonough, Senior Vice President, Insights, the Nielsen Company, *The Changing TV Landscape*, Oct. 30, 2013 (presentation) at 25.

<sup>670</sup> *Id.* at 33.

<sup>671</sup> See *16<sup>th</sup> Report*, 30 FCC Rcd at 3397, para. 305.

<sup>672</sup> *Id.*

<sup>673</sup> *Id.*

<sup>674</sup> We use the term "subscribers" to refer to paid subscribers only. Netflix and other OVD services offer free trial memberships to new and certain rejoining members. Therefore, the total number of subscribers is slightly higher than the total number of paid subscribers. As of 2014, in Netflix's domestic streaming segment, it derived monthly membership fees for services consisting solely of streaming content offered through a membership plan. Netflix, 2014 Form 10K at 18.

<sup>675</sup> Netflix 2014 Form 10K at 18, 21.

<sup>676</sup> *Id.* at 21. NCTA notes Netflix has more subscribers than any other premium service, with 43 million U.S. subscribers in 2015. NCTA Comments at 13.

<sup>677</sup> *Id.* at 2.

<sup>678</sup> SNL Kagan, *The Future of 4K and Internet TV*, 2015 Edition, at 25.

or the number of members who take advantage of the video streaming service.<sup>679</sup> Consumer Intelligence Research Partners estimates that Amazon Prime had 40 million subscribers at the beginning of 2015.<sup>680</sup>

**b. Revenue**

203. *Subscription, EST, and Rental.* OVDs earn revenues from advertisers as well as directly from consumers through subscriptions, EST, and rentals. As shown in Table III.C.5, SNL Kagan estimates that OVDs earned about \$7.1 billion in total revenues in 2014 as compared to \$5.4 billion in 2013.<sup>681</sup>

**Table III.C.5**  
**OVD Revenue Streams (in millions)**<sup>682</sup>

Revenue Source	2012	2013		2014	
	Revenue	Revenue	Percent Change	Revenue	Percent Change
Movie Purchases	\$ 557.7	\$ 661.4	19%	\$ 757.7	15%
TV Purchases	\$ 351.5	\$ 449.3	28%	\$ 505.1	12%
<b>Total EST</b>	<b>\$ 909.2</b>	<b>\$1,110.7</b>	<b>22%</b>	<b>\$1,262.8</b>	<b>14%</b>
Movie Rentals	\$ 514.8	\$ 669.8	30%	\$ 868.4	30%
TV Rentals	\$ 0	\$ 0		\$ 0	
<b>Total Rentals</b>	<b>\$ 514.8</b>	<b>\$ 669.8</b>	<b>30%</b>	<b>\$ 868.4</b>	<b>30%</b>
<b>Subscription</b>	<b>\$2,700.2</b>	<b>\$3,665.2</b>	<b>36%</b>	<b>\$4,920.1</b>	<b>34%</b>
<b>Total Paid/Subscription</b>	<b>\$4,124.2</b>	<b>\$5,445.7</b>	<b>32%</b>	<b>\$7,051.3</b>	<b>29%</b>

204. While revenues of individual OVDs are not generally available, Netflix reports that it earned \$3.43 billion from its domestic streaming segment during 2014, an increase of 25 percent from the \$2.75 billion it earned in 2013.<sup>683</sup>

205. *Advertising.* OVDs obtain advertising fees from a variety of advertising formats: (1) search, (2) display, (3) classifieds, (4) lead generation, (5) mobile, (6) e-mail, and (7) digital video.<sup>684</sup>

<sup>679</sup> *Id.* at 24.

<sup>680</sup> Patrick Seitz, *Amazon Prime users on par with Netflix for streaming video*, Fe. 10, 2015, <http://news.investors.com/technology-click/021015-738690-amazon-beats-netflix-in-subscriber-video-watching.htm?ven=rss>.

<sup>681</sup> SNL Kagan, *Internet Video-on-Demand Revenue Projections, 2010-2023*, Oct. 20, 2014 (Excel spreadsheet).

<sup>682</sup> *Id.*

<sup>683</sup> Netflix 2014 Form 10K at 18.

<sup>684</sup> See eMarketer.com, *Mobile Gains Greater Share of Search, Display Spending*, Aug. 21, 2013, <http://www.emarketer.com/Articles/Print.aspx?R=1010148> (last visited Nov. 16, 2015); SNL Kagan, *Media Trends* (2014 edition) at 126. Search advertising is a format whereby advertisers pay a fee to an Internet company to list and/or link the advertiser's site to a specific search word or phrase. Display advertising refers to a format whereby an advertiser pays an Internet company for space to display a static or hyperlinked banner or logo on one or more of the Internet company's pages. For classified advertising, advertisers pay fees to Internet companies to list specific (continued....)

Non-mobile search advertising accounted for approximately 38 percent of all Internet advertising revenues in 2014 compared to 43 percent in 2013.<sup>685</sup> IAB reports total Internet advertising revenues reached \$49.5 billion in 2014, compared with \$42.8 billion in 2013.<sup>686</sup> SNL Kagan reports nearly identical numbers, estimating total U.S. online ad spending at almost \$49.4 billion in 2014, compared with \$42.7 billion in 2013.<sup>687</sup> IAB estimates that digital video advertising represented about seven percent of total Internet advertising revenues during the fourth quarter of both 2013 and 2014.<sup>688</sup> Similarly, SNL Kagan estimates that digital video represented 11.9 percent of total Internet advertising in 2014 and 9.4 percent in 2013.<sup>689</sup>

206. SNL Kagan estimates that Hulu generated \$639 million in advertising revenues in 2014, and \$553 million in 2013.<sup>690</sup> In 2014, Hulu generated \$590 million in subscription revenues compared to \$402 million in 2013.<sup>691</sup> Advertising revenues represented about 52 percent of Hulu's \$1.2 billion in revenues for 2014.<sup>692</sup> Advertising represented 47.3 percent of Hulu's total \$246.1 million in U.S. net revenues in 2013, and overall, Hulu generated about \$955.4 million from its U.S. operations in 2013.<sup>693</sup>

### c. Investment

207. As emerging and evolving businesses, OVDs are investing in programming, proprietary Internet-enabled devices, infrastructure, and technology. OVDs must invest in programming to attract viewers. For example, Netflix pays a flat fee for multi-year licensing agreements with studios for television programs, movies, and original programming for license windows that generally range from six months to five years.<sup>694</sup> Terms of the payments may extend throughout the window, or may require additional up-front payments as is typically the case for original content or content licensed for an early distribution window.<sup>695</sup> Between 2007 and 2013, Netflix spent \$5.96 billion on content for its

(Continued from previous page) \_\_\_\_\_

products or services. Lead generation refers to fees advertisers pay to Internet advertising companies that refer qualified purchase inquiries or provide consumer information where the consumer opts into being contacted by a marketer. Mobile advertising is advertising tailored to and delivered through wireless mobile devices. E-mail advertising refers to banner ads, links, or advertiser sponsorships that appear in commercial email communications. Digital video advertising is advertising that appears before, during, or after video content and includes commercials that appear in streaming content or in downloadable video. Interactive Advertising Bureau, *IAB Internet Advertising Revenue Report, 2014 Year End Results*, April 2015, at 24-25, [https://www.iab.net/media/file/IAB\\_Internet\\_Advertising\\_Revenue\\_Report\\_FY\\_20142.pdf](https://www.iab.net/media/file/IAB_Internet_Advertising_Revenue_Report_FY_20142.pdf) (last visited Jan. 15, 2016).

<sup>685</sup> Interactive Advertising Bureau, Interactive Advertising Bureau, *IAB Internet Advertising Revenue Report, 2014 Year End Results*, April 2015, at 13, [http://www.iab.net/media/file/IAB\\_Internet\\_Advertising\\_Revenue\\_Report\\_FY\\_20142.pdf](http://www.iab.net/media/file/IAB_Internet_Advertising_Revenue_Report_FY_20142.pdf).

<sup>686</sup> *Id.*

<sup>687</sup> *Id.*

<sup>688</sup> *Id.*

<sup>689</sup> SNL Kagan, *U.S. Internet Advertising Revenue Model, 1999-2024* (Excel Spreadsheet, Nov. 5, 2014).

<sup>690</sup> Ali Choukeir, *Profile: Hulu, SNL Kagan: Economics of Internet Media*, April 1, 2015.

<sup>691</sup> *Id.*

<sup>692</sup> *Id.*

<sup>693</sup> *See 16<sup>th</sup> Report*, 30 FCC Rcd at 3403, para. 315.

<sup>694</sup> Netflix 2014 Form 10K at 29.

<sup>695</sup> *Id.*

subscription OVD service.<sup>696</sup> OVDs also invest in original content. Netflix reportedly spends about 10 percent of its total content expenses on original programming and spent about \$3.2 billion on global streaming content in 2014 up from \$2.4 billion in 2013.<sup>697</sup> SNL Kagan estimates that Netflix spent \$2.66 billion for content in 2014, including \$248.3 million (9.3 percent) for original content, and estimates that those figures will grow to \$3.45 billion and \$538.8 million (15.6 percent) in 2015.<sup>698</sup> As previously mentioned, Hulu Plus and Amazon Prime have added original content as well.<sup>699</sup>

208. As online video continues to be the dominant type of Internet traffic,<sup>700</sup> OVDs must develop the infrastructure to serve that demand and develop methods of using existing infrastructure more efficiently.<sup>701</sup> As noted above, some OVDs utilize end-to-end infrastructure support services to deliver content to subscribers.<sup>702</sup> New and smaller OVDs often rely on 3<sup>rd</sup> party Content Delivery Networks, or CDNs, such as Akamai, Limelight, and CDNetworks, to bring their content closer to consumers' broadband ISPs.<sup>703</sup> Established OVDs that have reached sufficient scale, such as Netflix, may develop their own proprietary CDNs.<sup>704</sup> OVDs are also adopting more efficient video encoding to decrease the amount of data that must be delivered to consumers.<sup>705</sup> Finally, unaffiliated third parties are seeking to increase efficiency for ISPs by implementing generic caching solutions for online video.<sup>706</sup> Since the last report, several OVDs have invested in additional proprietary devices to facilitate OVD viewing. These include Amazon (Fire TV Stick), Roku (Roku 4), and Google (Nexus Player and Nvidia Shield).<sup>707</sup>

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<sup>696</sup> 2013 *State of Online Video Delivery* at 5.

<sup>697</sup> Todd Spangler, *Ted Sarandos: Netflix Appetite for Originals Growing Stronger*, VARIETY, May 13, 2015, <http://variety.com/2015/digital/news/netflix-ted-sarandos-original-series-1201494618/>.

<sup>698</sup> 2015 *State of Online Video Delivery* at 9.

<sup>699</sup> See *supra*, para. 137.

<sup>700</sup> Cisco forecasts that online video will account for 80 percent of all consumer internet traffic in 2019, up from 64 percent in 2014. See Cisco Visual Networking Index: Forecast and Methodology, 2014-2019 (May 27, 2015), available at [http://www.cisco.com/c/en/us/solutions/collateral/service-provider/ip-ngn-ip-next-generation-network/white\\_paper\\_c11-481360.html](http://www.cisco.com/c/en/us/solutions/collateral/service-provider/ip-ngn-ip-next-generation-network/white_paper_c11-481360.html).

<sup>701</sup> See Netflix Comments at 6.

<sup>702</sup> See, e.g., Rovi Cloud Services, <http://www.rovicorp.com/products-and-solutions/products/cloud-platform-services.html> (last visited Feb. 10, 2016).

<sup>703</sup> See Akamai, <http://www.akamai.com> (last visited Feb. 10, 2016); Limelight, <http://www.limelight.com> (last visited Feb. 10, 2016); CDNetworks, <http://www.cdnetworks.com> (last visited Feb. 10, 2016); Netflix Comments at 6.

<sup>704</sup> Netflix Comments at 6-7.

<sup>705</sup> See Janko Roettgers, *Inside Netflix's Plan to Boost Streaming Quality and Unclog the Internet*, VARIETY (Dec. 14, 2015).

<sup>706</sup> Caching refers to the process of storing a copy of content a user has requested so that a subsequent request by that user or another accesses only the copy and does not download new data over the ISP's internet connection. See, e.g., Qwilt Transparent Caching Solutions, <http://qwilt.com/solutions/transparent-caching/> (last visited Feb. 10, 2016).

<sup>707</sup> Brandon Widder, *8 of the best streaming devices to watch TV your way, on your schedule*, Aug. 13, 2015, <http://www.digitaltrends.com/home-theater/best-tv-streaming-devices/>.

#### d. Profitability

209. Many OVDs are subsidiaries of, or operate within, larger businesses. Because the assets, liabilities, revenues, and expenses of the parent company and the subsidiaries are often reported in consolidated financial statements that reflect the total resources of the combined entity rather than those of any of its specific component parts, assessing the profitability of a subsidiary of a larger enterprise can be difficult. Of the companies that are the focus of our OVD analysis, only Netflix, which is a standalone OVD, breaks out operating income from streaming services in publicly available reports. Netflix reports that it earned a profit of almost \$936 million from its domestic streaming segment during 2014, an increase of 50 percent from the \$623 million profits it earned in 2013.<sup>708</sup> Due to the diverse nature of OVD business models and strategies, however, we do not believe that Netflix alone is sufficiently representative of the entire OVD segment. Thus, for this Report, we are unable to conduct an analysis of the profitability of OVDs. As OVDs continue to mature and evolve, we anticipate that future public reporting by more entities may include data on profitability and other metrics to assess the financial viability of this segment of the delivered video market.

### IV. CONSUMER PREMISES EQUIPMENT

#### A. Introduction

210. Changes in consumer premises equipment (CPE) and user equipment technology continue to have an impact on competition in the video programming market. CPE is necessary for consumers to access the services that broadcasters, MVPDs, and OVDs provide. Because CPE is an integral part of viewing video programming, CPE features, such as recording, home networking, mobile access, and user interface, are factors consumers typically consider when choosing to purchase programming services.

211. Internet video has changed consumers' viewing habits, choices, expectations, and options.<sup>709</sup> Consumers are now able to view multichannel video programming from a mix of cable/Internet Protocol television (IPTV)/DBS (including video on demand), broadcast, and OVD systems, but almost all of them view MVPD programming using equipment leased from an MVPD.<sup>710</sup> Some suggest that greater competition in the CPE market for devices that can access multichannel video programming would foster development of features such as innovative user experiences and search functions.<sup>711</sup> Further, commenters assert that consumers would benefit from having different device options for attaching to networks.<sup>712</sup> Most consumers want to view streaming online video through their television sets by incorporating easy-to-use, integrated technology.<sup>713</sup> NCTA states that MVPDs and OVDs have developed "apps" enabling consumers to access their video services both inside and outside the home on IP-enabled tablets, smartphones, Smart TVs, game consoles, retail set-top boxes, and personal computers, and NCTA reports that there are over 460 million IP-enabled devices that can receive apps.<sup>714</sup> New business models for viewing content are being introduced, such as

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<sup>708</sup> Netflix 2014 Form 10K at 18.

<sup>709</sup> NCTA Comments at 10.

<sup>710</sup> CVCC Comments at 6.

<sup>711</sup> TiVo Comments at 2.

<sup>712</sup> CVCC Comments at 4.

<sup>713</sup> CEA Comments at 2.

<sup>714</sup> NCTA Comments at 16. NCTA reports that consumers have downloaded MVPD apps over 56 million times as of July 2015, and reports that consumer use of MVPD-authenticated apps is trending upward but does not provide consumer usage data. *Id.* at 16-19. *See also* Comcast Comments at 5.

MVPDs enabling subscribers to stream programming from their DVRs to their mobile devices via Wi-Fi or to download the recorded content to their devices for viewing when a connection to the Internet is unavailable.<sup>715</sup> Some MVPD operators and cable networks are offering an option of purchasing limited cable programming exclusively for IP-enabled devices.<sup>716</sup>

212. In this section, we examine technological, regulatory, and market developments related to CPE since the last report. First, we update advancements in higher resolution video content and televisions. Next we consider the development of navigation devices by MVPDs and third-party vendors. Finally, we review developments in devices used to access online and mobile video services.

### **B. 4K and 8K/UltraHD Televisions**

213. Last year's report first discussed the emergence of Ultra High-Definition (Ultra HD) televisions in the marketplace. Ultra HD screens encompass higher resolutions (more pixels) for a more realistic picture and color quality than HDTV.<sup>717</sup> Currently, Ultra HD comes in resolutions of 4K (2160p) with 8.3 megapixels or four times as many as full HD (1080p) and now 8K (4320p) with 33.2 megapixels or 16 times as many as full HD.<sup>718</sup> Consumers are becoming aware of the new technology and expressing interest in purchasing Ultra HD TVs.<sup>719</sup> According to CEA, one-third of consumers may purchase a 4K television within the next three years.<sup>720</sup> At this time CEA estimates that two percent of TV households have Ultra HD televisions.<sup>721</sup> The U.S. is expected to become the leading market for Ultra HD televisions in terms of household penetration, as nearly half of television homes will likely own a 4K television by 2020.<sup>722</sup> In 2014, 60 percent of all Ultra HD TVs shipped were 50-inch or larger in size.<sup>723</sup> 8K technology requires very large screen sizes for the resolution to be perceived at normal viewing distances.<sup>724</sup> It is anticipated that 8K will have an increasing impact on the market.<sup>725</sup> As prices fall, adoption is likely to increase.<sup>726</sup> Today, 4K models are available starting under \$1,000,<sup>727</sup> down from the

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<sup>715</sup> NCTA Comments at 14.

<sup>716</sup> *Id.*

<sup>717</sup> Rodolfo La Maestra, *Is 4K Resolution Important to Consumers?*, May 12, 2015, <http://www.ultrahdvtv.net/articles/is-4k-resolution-important-to-consumers/> (last visited Oct. 2, 2015).

<sup>718</sup> Andrew Michael, *What is Ultra High Definition?*, Ultra HDTV, May 27, 2015, <http://www.ultrahdvtv.net/articles/what-is-ultra-hd/> (last visited Sept. 29, 2015); Sean Captain, *What Is 4K TV?*, Tom's Guide, July 15, 2015, <http://www.tomsguide.com/us/4k-tv-explained.news-17877.html> (last visited Oct. 14, 2015).

<sup>719</sup> CEA Comments at 9.

<sup>720</sup> CEA, *The Future is Clear – 4K Ultra High-Definition Continues to Build Positive Momentum*, Press Release, Jan 5, 2015, <http://www.ce.org/News/News-Releases/Press-Releases/2014/The-Future-is-Clear-%E2%80%93-4K-Ultra-High-Definition-Con.aspx> (last visited Oct. 1, 2015).

<sup>721</sup> CEA Comments at 9.

<sup>722</sup> *Id.* 9.

<sup>723</sup> Jim O'Neill, *4K UHD TV shipments soar 633% in 2014; U.S. to near 50% penetration by 2020*, VIDEOMIND, Mar. 15, 2015, <http://www.ooyala.com/videomind/blog/4k-uhd-tv-shipments-soar-633-2014-us-near-50-penetration-2020> (last visited Oct. 13, 2015).

<sup>724</sup> IHS Newsroom, *Global 8K TV Shipments to Approach One Million Units in 2019, IHS Says*, July 13, 2015, <http://press.ihs.com/press-release/technology/global-8k-tv-shipments-approach-one-million-units-2019-ihs-says> (last visited Sept. 30, 2015).

<sup>725</sup> CEA Comments at 10.

<sup>726</sup> *Id.* at 9.

reported \$3,000 last year, with the first 8K television coming to market at over \$130,000.<sup>728</sup> At this early stage, 8K television shipments are estimated to reach nearly 1 million units by 2019.<sup>729</sup>

214. The amount of 4K content available to consumers has grown considerably since the last report. All such content at this time is offered through broadband connections from a growing number of OVDs.<sup>730</sup> Currently, no U.S. broadcaster is supporting Ultra HD.<sup>731</sup> Some streaming video providers offering 4K content include YouTube, Amazon Prime Instant Video, M-Go, and Netflix.<sup>732</sup> Amazon, Netflix, and a number of Hollywood studios are now shooting all original content in 4K.<sup>733</sup> Netflix recommends an Internet download speed of 25 Mbps or better for Ultra HD quality streams,<sup>734</sup> while others recommend as little as 15 Mbps to ensure a good experience.<sup>735</sup> CPE offering access to 4K content includes the new TiVo BOLT<sup>736</sup>, Amazon Fire TV<sup>737</sup>, and Roku 4<sup>738</sup> boxes. Comcast anticipates a 4K capable Xi4 set-top-box.<sup>739</sup> Samsung's 4K Ultra HD Video Pack<sup>740</sup> and Sony's 4K Ultra HD Media

(Continued from previous page)

<sup>727</sup> Louis Ramirez, *Best HDTV Deals: Brand-Name 4K Ultra HDTV for \$550*, DEAL NEWS, Sept. 29, 2015, <http://dealnews.com/features/best-tv-deals/> (last visited Oct. 1, 2015).

<sup>728</sup> David Goldman, *World's first 8K TV Costs \$133,000: Sharp Will Begin Selling the World's First 8K Television Just In Time for Halloween*, CNN MONEY, <http://money.cnn.com/2015/09/17/technology/8k-tv/index.html?iid=surge-story-summary> (last visited Sept. 24, 2015).

<sup>729</sup> IHS Electronics 360, *8K TV Shipments Forecast to Grow Rapidly in the Next 5 Years*, July 15, 2015, <http://electronics360.globalspec.com/article/5469/8k-tv-shipments-forecast-to-grow-rapidly-in-the-next-5-years> (last visited Sept. 30, 2015).

<sup>730</sup> David Katzmaier, *4K Content Guide: What to Watch in 4K Today*, CNET HOME ENTERTAINMENT, Feb. 5, 2015, <http://www.cnet.com/news/4k-content-guide-what-to-watch-in-4k-today/> (last visited Oct. 14, 2015).

<sup>731</sup> Tim Moynihan, *4K TV's Biggest Content Problem: No Live Broadcasts Anytime Soon*, WIRED, Feb. 25, 2015, <http://www.wired.com/2015/02/live-4k-broadcasts/> (last visited Oct. 14, 2015).

<sup>732</sup> Cedric Demers, *Where to Find 4k Movies and Content*, Apr. 29, 2015, <http://www.rtings.com/tv/learn/where-to-find-4k-movies-and-content>.

<sup>733</sup> Stephen Jukic, *4K Video and OTT Broadband Services Are Going to Seriously Affect the Traditional Broadcast Industry*, 4K News, July 10, 2015, <http://4k.com/news/ott-and-4k-content-via-broadband-will-remake-broadcast-programming-8085/> (last visited Oct 14, 2015).

<sup>734</sup> Netflix Help Center Internet Connection Speed Recommendations, <https://help.netflix.com/en/node/306> (last visited Oct 14, 2015).

<sup>735</sup> Dan Rayburn, *The Adoption Of 4K Streaming Will Be Stalled By Bandwidth, Not Hardware & Devices*, STREAMING MEDIA BLOG, Jan. 14, 2015, <http://blog.streamingmedia.com/2015/01/4k-streaming-bandwidth-problem.html> (last visited Oct 14, 2015).

<sup>736</sup> TiVo BOLT, <https://www.tivo.com/shop/bolt#/bolt> (last visited Oct. 15, 2014).

<sup>737</sup> Amazon Fire TV, <http://www.amazon.com/Amazon-DV83YW-Fire-TV/dp/B00U3FPN4U> (last visited Oct. 15, 2015).

<sup>738</sup> Roku 4, <https://www.roku.com/products/roku-4> (last visited Oct. 15, 2015).

<sup>739</sup> Comcast, *Comcast to Launch 4K Ultra High-Definition Set-Top Box*, News Release, May 6, 2015, <http://corporate.comcast.com/news-information/news-feed/comcast-to-launch-4k-uhd-set-top-box> (last visited Oct. 15, 2015).

<sup>740</sup> Samsung CY-SUC10SH1 UHD Video Pack, <http://www.samsung.com/us/video/tvs-accessories/CY-SUC10SH1/ZA> (last visited Oct. 15, 2015).

Player<sup>741</sup> are add-on proprietary boxes that provide pre-loaded and downloadable Ultra HD content to each company's 4K compatible models.<sup>742</sup> 4K Blu-ray discs and players are anticipated to hit the market with limited titles and players.<sup>743</sup> Akamai's *State of the Internet Report*, finds that 19 percent of the United States is prepared to receive 4K services through broadband.<sup>744</sup> This is a two percent increase from last year's report, which is based on a benchmark of an average broadband connection speed above 15 Mbps.<sup>745</sup>

### C. CPE Used to Access MVPD Services

215. *Leased CPE.* Leased CPE, that is, CPE for which consumers pay a monthly fee to their MVPD operators, is by far the most common way that Americans view television programming. Even as consumers increasingly watch television on other devices, they spend on average more than two-thirds of their time viewing video programming on a television.<sup>746</sup> Comments submitted by Consumer Video Choice Coalition describe an analysis of the top-ten MVPDs finding that leased CPE is used by approximately 99 percent of MVPD customers at an estimated cost of \$231 per year per household, or approximately \$20 billion dollars of revenue per year to MVPDs.<sup>747</sup> Verizon offers additional support for this conclusion, noting that CableCARD penetration (CableCARDS are used to enable retail devices to access cable service) never reached significant levels, hovering around one percent of subscribers for the nine largest cable systems.<sup>748</sup> The result is that leased CPE is a significant cost for consumers and source of revenue for operators.

216. Penetration of DVRs continues to increase. Approximately 54.7 million, or 47 percent of television households, had DVRs in 2014.<sup>749</sup> In 2013, DVRs were in 50.9 million or 45 percent of all television households.<sup>750</sup> The availability of DVRs coupled with other technological developments has spurred consumers' desire and ability to watch video on a time-shifted basis. The table below provides estimates of the numbers of households that have MVPD service, DVRs, and HD televisions.

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<sup>741</sup> Sony FMP-X10 4K HD Media Player, <http://www.sony.com/electronics/televisions-remotes-selectors-cameras/fmp-x10> (last visited Oct. 15, 2015).

<sup>742</sup> Amazon 4K Ultra HD Guide, <http://www.amazon.com/4K-UHD-TV-Resource-Guide/b?ie=UTF8&node=10195182011> (last visited Oct. 15, 2015)/

<sup>743</sup> Geoffrey Morrison, *Ultra HD '4K' Blu-ray: Here's What We Know*, CNET, July, 2015, <http://www.cnet.com/news/ultra-hd-4k-blu-ray-what-we-know/> (last visited Oct. 14, 2015).

<sup>744</sup> Joan Engebretson, *Akamai Finds 19% of U.S. Broadband Users Ready for 4K Video*, TELECOMPETITOR, Jan. 8, 2015, <http://www.telecompetitor.com/akamai-finds-19-of-u-s-broadband-users-ready-for-4k-video/> (last visited Oct. 14, 2015).

<sup>745</sup> See *16th Report*, 30 FCC Rcd at 3407, para 323.

<sup>746</sup> Deloitte Development LLC, *Digital Democracy Survey* (9<sup>th</sup> Ed., 2015) at 8. Available at [http://www2.deloitte.com/content/dam/Deloitte/se/Documents/technology-media-telecommunications/Digital-Democracy-Survey-DDS\\_Executive\\_Summary\\_Report\\_Final\\_2015-04-20-tmt.pdf](http://www2.deloitte.com/content/dam/Deloitte/se/Documents/technology-media-telecommunications/Digital-Democracy-Survey-DDS_Executive_Summary_Report_Final_2015-04-20-tmt.pdf) (*Digital Democracy Survey*).

<sup>747</sup> Consumer Video Choice Coalition comments at 3. See also Public Knowledge comments at 2.

<sup>748</sup> Verizon Comments at 12.

<sup>749</sup> Nielsen, *Universe Estimate Report*, March 2015 (Nielsen 2015 Universe Estimates).

<sup>750</sup> *Id.*

**Table IV.C.1**  
**Television Household CPE Estimates (in thousands)**<sup>751</sup>

	2013-2014	2014-2015
<b>Total U.S. Households</b>	120,160	121,000
<b>U.S. Television Households</b>	115,800	116,400
<b>Broadcast Only</b>	11,390	12,400
<b>MVPD</b>	104,410	104,000
<b>DVR Owner</b>	54,210	56,100
<b>HD Households</b>	94,700	102,100

217. MVPDs also are focused on developing products and services to meet the trend toward mobile and IP-delivered content.<sup>752</sup> While non-television-based platforms are not currently seen as a replacement for television viewing,<sup>753</sup> consumers continue to increase the time they spend viewing on non-television platforms.<sup>754</sup> So while televisions will likely remain a mainstay in consumers' homes for years to come,<sup>755</sup> MVPDs currently appear to be focusing their resources on applications for use on mobile devices then on CPE for televisions.<sup>756</sup> NCTA states that all of the top-ten MVPDs have applications for iOS and Android tablets, but only five have applications for the Microsoft Xbox 360, despite its being more common than either tablet. According to NCTA, no MVPD has developed an application for the 12 million Vizio TVs currently deployed, and only one MVPD has an application for the 10 million Roku devices.<sup>757</sup> Recently, however, Comcast announced that in 2016, "Xfinity TV customers will be able to enjoy their cable subscription in the home via the new Xfinity TV Partner app designed specifically for Roku TVs and Roku streaming players."<sup>758</sup>

218. Commenters highlighted some developments in the market for leased CPE over the previous year. For example, AT&T and DIRECTV both highlight their extensive suite of leased CPE offerings, which they have deployed over the previous five years.<sup>759</sup> NCTA notes that the primary,

<sup>751</sup> Nielsen 2013 Universe Estimates; Nielsen 2012 Universe Estimates; Nielsen Sept. 2013 Universe Estimates; Nielsen Sept. 2012 Universe Estimates.

<sup>752</sup> See *infra*, Section IV.E.

<sup>753</sup> See, e.g., NESN Comments at 4 ("Devices like tablets merely improve consumers' experience by providing an additional screen and allowing for mobility").

<sup>754</sup> In 2014, the average consumer spent 71 percent of their time watching television programming on a television. See *Digital Democracy Survey* at 8. In 2015 that average dropped to 68 percent. See *id.* As in 2014, only "trailing millennials" (consumers 14-25 years old) spend less than 50 percent of their time viewing television programming on a television (they spend 43 percent of their time doing so). See *id.*

<sup>755</sup> CEA Comments at 8-9.

<sup>756</sup> NCTA Comments at 17-18.

<sup>757</sup> *Id.* at 17.

<sup>758</sup> Press Release, Comcast, *Comcast and Roku Bring Xfinity TV Partner App to Roku TVs and Roku Streaming Players* (Apr. 20, 2016), <http://corporate.comcast.com/news-information/news-feed/comcast-and-roku-bring-xfinity-tv-partner-app-to-roku-tvs-and-roku-streaming-players>.

<sup>759</sup> AT&T Comments at 3, 5. For example, AT&T highlights their wireless DVR, a device first released in 2011. See *Industry's First Integrated Wireless Receiver Gives U-Verse TV Customers More Freedom to Easily Watch TV*

(continued....)

ongoing trend in leased CPE is the migration of functionality previously implemented in the leased CPE to cloud-based operation, especially DVR storage and user interfaces.<sup>760</sup> Comcast details new leased CPE features, drawing attention to its first-of-a-kind accessible “talking guide,” voice-control features for accessibility and ease of use, ability to restrict leased CPE to children-friendly programming, and other enhancements.<sup>761</sup>

219. Small MVPDs express concerns about a lack of access to the same leased CPE provided by larger MVPDs, particularly because large MVPDs drive the market for CPE that MVPDs lease to consumers. Smaller MVPDs believe their lack of scale prevents them from accessing advanced, innovative video navigation devices at competitive prices and remains an impediment to new entrants in the video programming marketplace.<sup>762</sup> The Consumer Video Choice Coalition argues that large MVPDs benefit from economies of scale and that set-top box manufacturers have an incentive to focus on larger MVPDs, while small MVPDs face high costs if they want to offer devices different from those of the major operators due to their smaller subscriber bases over which to defray costs.<sup>763</sup>

220. *Section 629 of the Communications Act and the STELA Reauthorization Act.* Section 629 of the Communications Act directs the Commission to “adopt regulations to assure the commercial availability . . . of converter boxes, interactive communications equipment, and other equipment” that consumers use to access MVPD services.<sup>764</sup> In past reports we have provided the history of the Commission’s implementation of Section 629 via the separation of security requirements and CableCARD.<sup>765</sup> Consistent with the content of prior reports, current year data shows a continued gap between the number of CableCARDS deployed for use in retail devices and the number deployed for use in operator-supplied boxes.<sup>766</sup>

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*Anywhere, in Any Room in the Home*, AT&T Press Release (Oct. 25, 2011), available at <http://www.att.com/gen/press-room?pid=21816&cdvn=news&newsarticleid=33158&mapcode=>. DIRECTV highlights the 2015 expansion of their DIRECTV Everywhere service to include additional live channels and out-of-home streaming. ATT Comments at 5.

<sup>760</sup> NCTA Comments at 6-7.

<sup>761</sup> Comcast Comments at 9-10. The FCC recently required operators with more than 400,000 subscribers to make the user interfaces accessible by December 20, 2016. *See Accessibility of User Interfaces, and Video Programming Guides and Menus Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the Twenty-First Century Communications and Video Accessibility Act of 2010*, Report and Order and Further Notice of Proposed Rulemaking, 28 FCC Rcd 17330 (2013).

<sup>762</sup> COMPTTEL Reply at 7.

<sup>763</sup> CVCC Comments at 7.

<sup>764</sup> 47 U.S.C. § 549(a). We refer to the universe of devices that can access MVPD services as “navigation devices.”

<sup>765</sup> *16<sup>th</sup> Report*, 30 FCC Rcd at 340911, paras. 329-31.

<sup>766</sup> *See infra*, Table IV.C.2 “Deployment of CableCARDS (Cumulative)” shows the reported number of CableCARD deployments for use in retail CableCARD-enabled devices since 2006 and the deployment of operator-supplied set-top boxes with CableCARDS since the integration ban went into effect on July 1, 2007. *See Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Second Report and Order, 20 FCC Rcd 6794, 6814-15, para. 39 (2005). Effective July 1, 2007, cable operators were required to separate security in their leased devices and rely on the same conditional access mechanism that consumer electronics manufacturers use in their commercially available devices (this requirements is known as the “integration ban”). 47 CFR § 76.1204(a)(1). *See Implementation of Section 304 of the Telecommunications Act of 1996: Commercial Availability of Navigation Devices*, CS Docket No. 97-80, Order and Further Notice of Proposed Rulemaking, 18 FCC Rcd 7924, 7926 para. 4 (2003); *2005 Deferral Order*, 20 FCC Rcd at 6802-03 para. 13.

**Table IV.C.2**  
**Deployment of CableCARDS (Cumulative)<sup>767</sup>**

<b>Year (as of June)</b>	<b>CableCARD Deployment for Use in Retail Devices – Top 10 Cable Operators</b>	<b>Operator-supplied Set- top Boxes With CableCARDS</b>
2006	170,000	-
2007	271,000	-
2008	372,000	6,232,800
2009	437,800	14,085,000
2010	520,000	21,000,000
2011	582,000	29,300,000
2012	618,000	36,000,000
2013	603,000	42,000,000
2014	620,000	48,000,000
2015	617,000	53,000,000

221. The STELAR terminated the integration ban effective December 4, 2015, and directed the Commission to establish a committee (the Downloadable Security Technical Advisory Committee or DSTAC) to “identify, report, and recommend performance objectives, technical capabilities, and technical standards of a not unduly burdensome, uniform, and technology- and platform-neutral software-based downloadable security system designed to promote the competitive availability of navigation devices.”<sup>768</sup> The DSTAC filed its report on August 28, 2015.<sup>769</sup> The report presented two proposals for system security<sup>770</sup> and two proposals for non-security elements that would be necessary in order to build a device that is compatible with all MVPD systems and services.<sup>771</sup> The DSTAC’s report, and the record developed in response to it, informed a Notice of Proposed Rulemaking adopted by the Commission on February 18, 2016.<sup>772</sup> In the Notice of Proposed Rulemaking, the Commission proposed to require MVPDs to provide data in a published, transparent format that would allow an unaffiliated device or

<sup>767</sup> See Letters from Neal M. Goldberg, Vice President and General Counsel, NCTA, to Marlene H. Dortch, Secretary, FCC, CS Docket No. 97-80 (filed June 29, 2006, June 25, 2007, June 23, 2008, June 26, 2009, June 23, 2011, June 30, 2011, July 30, 2012, July 31, 2013, July 31, 2014, July 31, 2015).

<sup>768</sup> STELAR, § 106, 128 Stat. 2063-64. See also *FCC Seeks Nominations for Membership for the Downloadable Security Technical Advisory Committee*, Public Notice, DA 14-1763 (MB rel. Dec. 4, 2014); *Expanding Consumers’ Video Navigation Choices; Commercial Availability of Navigation Devices*, MB Docket No. 16-42, CS Docket No. 97-80, Notice of Proposed Rulemaking and Memorandum Opinion and Order, FCC 16-18 (Feb. 18, 2016) (*Video Navigation Choices NPRM & MO&O*).

<sup>769</sup> See Final Report of the Downloadable Security Technical Advisory Committee, available at <https://transition.fcc.gov/dstac/dstac-report-final-08282015.pdf>.

<sup>770</sup> *Id.* at 81-94.

<sup>771</sup> *Id.* at 242-278.

<sup>772</sup> *Video Navigation Choices NPRM & MO&O*.

application to access multichannel video programming, and to support at least one content protection system that is licensable on reasonable and nondiscriminatory terms.<sup>773</sup>

**D. CPE Used to Access OVD Services**

222. The evolution of technology has brought about the integration of services across multiple platforms employing various technologies.<sup>774</sup> As noted above, the increased availability and use of IP video streaming options impacts competition in the video industry.<sup>775</sup> Broadband is key to providing consumers with IP-delivered video.<sup>776</sup> Today 45 percent of U.S. television households receive some programming on their televisions via the Internet.<sup>777</sup> Consumers' viewing experience with IP-delivered video can vary significantly depending on the broadband speed, regardless of the CPE used.<sup>778</sup> Cable operators are also planning for deployment of DOCSIS 3.1<sup>779</sup> in order to meet future bandwidth needs, although cable modems capable of supporting gigabit speeds are beginning to enter the market.<sup>780</sup> IP-delivered video content can be distributed within the home across multiple broadband-capable devices, game consoles, and standalone devices, such as those provided by Amazon, Apple, Roku, Boxee, Google, TiVo, Microsoft, and Sony. These devices allow users to navigate and receive video delivered via broadband Internet and display it on a television monitor or wireless device such as a smartphone, laptop, or tablet.

223. For example, Apple's latest Apple TV streaming box incorporates apps for launching OVD services and third-party games through a new operating system called tvOS with a Siri remote to make a consumer's television screen feel like his or her personal iPhone or iPad.<sup>781</sup> Google's second generation Chromecast plugs into an HDMI port and casts content from the Chromecast mobile app to a

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<sup>773</sup> *Id.* at 1545-56, para. 2.

<sup>774</sup> House Energy and Commerce Committee White Paper 3, Competition Policy and the Role of the Federal Communications Commission, May 19, 2014, <http://energycommerce.house.gov/sites/republicans.energycommerce.house.gov/files/analysis/CommActUpdate/20140519WhitePaper-Competition.pdf> (last visited Oct. 20, 2015).

<sup>775</sup> CEA Comments at 5.

<sup>776</sup> *Id.* at 4.

<sup>777</sup> *Id.* at 10.

<sup>778</sup> FCC Broadband Speed Guide, <https://www.fcc.gov/guides/broadband-speed-guide> (last visited Oct. 7, 2015). FCC Household Broadband Guide, <https://www.fcc.gov/guides/household-broadband-guide> (last visited Oct. 7, 2015).

<sup>779</sup> CableLabs, *New Generation of DOCSIS Technology*, CableLabs News, <http://www.cablelabs.com/news/new-generation-of-docsis-technology/> (last visited Oct. 21, 2015). See also Mike Dano, *From Comcast to Arris: Winners and losers in the cable industry's move to DOCSIS 3.1 and 1 Gbps speeds*, FierceCable Special Report, Sep. 9, 2015, <http://www.fiercecable.com/special-reports/comcast-arris-winners-and-losers-cable-industrys-move-docsis-31-and-1-gbps?confirmation=123> (last visited Oct. 21, 2015). Ben Munson, *Comcast Talks Progress Toward DOCSIS 3.1 Deployment*, CED Magazine, Oct. 14, 2015, [http://www.cedmagazine.com/news/2015/10/comcast-talks-progress-toward-docsis-31-deployment?et\\_cid=4879065&et\\_rid=43964505&location=top](http://www.cedmagazine.com/news/2015/10/comcast-talks-progress-toward-docsis-31-deployment?et_cid=4879065&et_rid=43964505&location=top) (last visited Oct. 21, 2015).

<sup>780</sup> Ben Munson, *Arris Rolls Out Its First DOCSIS 3.1 Modems*, CED MAGAZINE, Oct. 12, 2015, [http://www.cedmagazine.com/news/2015/10/arris-rolls-out-its-first-docsis-31-modems?et\\_cid=4874419&et\\_rid=210443319&location=top](http://www.cedmagazine.com/news/2015/10/arris-rolls-out-its-first-docsis-31-modems?et_cid=4874419&et_rid=210443319&location=top) (last visited Oct. 21, 2015).

<sup>781</sup> Apple TV, <http://www.apple.com/tv/> (last visited Oct. 20, 2015).

TV, which in turn supports third-party OVD apps.<sup>782</sup> The new Chromecast has added three different Wi-Fi antennas, compared to the earlier version's single antenna, to allow faster streaming of higher-resolution video.<sup>783</sup> Chromecast and Apple TV do not currently support 4K.<sup>784</sup>

224. The new TiVo BOLT is meant to be a “unified entertainment system” whereby consumers use a simplified search function to access OVD<sup>785</sup> content through apps in addition to their digital cable channels (with the use of a CableCARD) or over-the-air broadcast TV.<sup>786</sup> The BOLT will also allow users to enable a feature to skip commercial breaks for about 20 over-the-air and cable channels by manual tagging of the beginning and end of the breaks in the DVR.<sup>787</sup> Amazon's new versions of Fire TV and Fire TV Stick have added a voice-activated remote feature to interact with its cloud-based assistant “Alexa.”<sup>788</sup> Sony's PlayStation Vue<sup>789</sup> is a cloud-based streaming service available in seven major U.S. cities offering live TV, movies, and sports through their PS3 and PS4 consoles.<sup>790</sup>

### E. Mobile and Specialty Video Devices

225. *Mobile IP Devices.* Broadband connected devices, such as laptops, netbooks, smartphones, and tablets, typically have high-resolution screens for consumers to watch video. In the last report, we noted that International Data Corporation (IDC) forecast that tablet shipments would surpass total PC shipments (desktop and laptop) on an annual basis by the end of 2015.<sup>791</sup> Although tablet

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<sup>782</sup> Lauren Goode, *Google's new Chromecast has a New Look, Catches up to Modern Wi-Fi Standards*, The Verge, <http://www.theverge.com/2015/9/29/9411137/google-chromecast-2-announces-specs-price-release-date> (last visited Oct. 21, 2015).

<sup>783</sup> Mariell Moon, *Google's Chromecast 2.0 is Faster, More Colorful and Still Just \$35*, ENGADGET, Sep. 29, 2015, <http://www.engadget.com/2015/09/29/google-chromecast-2/> (last visited Oct. 21, 2015).

<sup>784</sup> Sean Keach, *Next-gen Chromecast 2 officially announced, but where's our 4K?*, Trusted Reviews, Sep. 29, 2015, <http://www.trustedreviews.com/news/new-chromecast-2-2015-4k-video-release-date> (last visited Oct. 21, 2015). John Archer, *The New Apple TV Is Already Out Of Date*, Forbes Tech, Sep 10, 2015, <http://www.forbes.com/sites/johnarcher/2015/09/10/the-new-apple-tv-is-already-out-of-date/> (last visited Oct. 21, 2015).

<sup>785</sup> CVCC Comments at 7.

<sup>786</sup> TiVo Bolt, <https://www.tivo.com/shop/bolt#/bolt> (last visited Oct. 8, 2015). NCTA notes that the TiVo charges a monthly service fee of \$14.99-\$19.99. NCTA Reply at 6.

<sup>787</sup> Anick Jesdanun, *Dreams Come True, No More Commercials*, U.S. News, Sept. 30, 2015, <http://www.usnews.com/news/business/articles/2015/09/30/new-tivo-dvr-will-skip-through-entire-commercial-break> (last visited March 11, 2016); TiVo, Features/Uses: SkipMode, [https://support.tivo.com/articles/Features\\_Use/SkipMode](https://support.tivo.com/articles/Features_Use/SkipMode) (last visited March 11, 2016) (“A dedicated team of TV-enthusiasts watches popular shows as they air and note where programming resumes after commercial breaks. This information is applied over the programs by the TiVo service as soon as it is available.”).

<sup>788</sup> Lauren Goode, *Amazon's Answer to Apple TV: a Fire TV Box with Alexa and 4K Video Support*, THE VERGE, Sep. 17, 2015, <http://www.theverge.com/2015/9/17/9340431/new-amazon-fire-tv-update-price-release-date> (last visited Oct. 21, 2015).

<sup>789</sup> PlayStation Network, PlayStation Vue, <https://www.playstationnetwork.com/vue> (last visited Oct. 7, 2015).

<sup>790</sup> CEA Comments at 3.

<sup>791</sup> IDC, *Tablet Shipments Forecast to Top Total PC Shipments in Fourth Quarter of 2013 and Annually by 2015*, According to IDC (press release), Sept. 11, 2013, <http://www.idc.com/getdoc.jsp?containerId=prUS24314413> (last visited Apr. 29, 2014). Worldwide smart connected device sales were expected to be \$622.4 billion in 2013, of which \$423.1 billion were expect to be from sales of smartphone and tablets costing \$350 or less. *Id.*

shipments instead slumped in 2015,<sup>792</sup> the average screen size of new models of smartphones continued to increase significantly, making those phones more practical for watching high-resolution video.<sup>793</sup> The number of 4G connected devices grew significantly to 183 million active devices in June 2015.<sup>794</sup> 4G connections enable video providers to potentially deliver high quality video to viewers.<sup>795</sup> MVPDs continue to make their video content accessible over a host of portable devices through the mobile IP marketplace. NCTA notes that cable operators and cable program networks are beginning to offer customers the option of purchasing some cable programming for viewing exclusively on IP-enabled devices.<sup>796</sup>

226. *Specialty Mobile Devices.* Specialty mobile devices are those that include specialized hardware to receive mobile video services from the mobile provider's network, as opposed to those that receive mobile video via the Internet. Benefits include providing a broadcast or point-to-multipoint system, not consuming data from a data plan, and simultaneously serving many devices in a crowded location (e.g. a stadium or arena). Downsides include the need for a specific service design, challenges such as antenna size, weight, the ability to track satellites while in motion, and the size of the handheld (or vehicle rooftop) device.<sup>797</sup> Since the last report, the trend in mobile video CPE has continued to focus on IP-delivery,<sup>798</sup> while specialty mobile devices have largely been abandoned. As of May 22, 2015, Dyle, the largest provider of such video devices, ceased operation of its broadcasts and support for its hardware.<sup>799</sup>

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<sup>792</sup> IDC, *Tablet Shipments Decline -12.6% in the Third Quarter as Many Vendors Get Serious About Moving from Slate Offerings to Detachables*, According to IDC, <http://www.idc.com/getdoc.jsp?containerId=prUS25989015> (last visited Dec. 3, 2015).

<sup>793</sup> Alex Barredo, *A Comprehensive Look into the Future of Smartphone Screen Sizes*, <http://gizmodo.com/a-comprehensive-look-into-the-future-of-smartphone-scre-1583303782> (last visited Oct. 5, 2015).

<sup>794</sup> CTIA, *The U.S. is a Global Leader in 4G LTE*, <http://blog.ctia.org/2015/09/25/the-us-is-a-global-leader-in-4g-lte/> (last visited Oct. 5, 2015).

<sup>795</sup> Mushroom Networks, *Can 4G LTE networks sustain HD Video?*, Dec. 16, 2013, <http://www.mushroomnetworks.com/blog/2013/12/16/can-4g-lte-networks-sustain-hd-video/> (last visited May 1, 2014).

<sup>796</sup> NCTA comments at 15-20.

<sup>797</sup> *16th Report*, 30 FCC Rcd at 2414, paras. 337-39.

<sup>798</sup> *Id.* at 2414, para. 338.

<sup>799</sup> Dyle, <http://www.dyle.tv> (last visited Oct. 5, 2014).

**V. PROCEDURAL MATTERS**

227. This *17<sup>th</sup> Report* is issued pursuant to authority contained in sections 4(i), 4(j), 403, and 628(g) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 403, and 548(g), and Section 0.283 of the Commission's rules, 47 CFR § 0.283.

228. It is ORDERED that the Office of Legislative Affairs shall send copies of the *17<sup>th</sup> Report* to the appropriate committees and subcommittees of the United States House of Representatives and the United States Senate.

229. It is FURTHER ORDERED that the proceeding in MB Docket No. 15-158 IS TERMINATED.

FEDERAL COMMUNICATIONS COMMISSION

William T. Lake  
Chief

**APPENDIX A****List of Commenters****Comments**

American Cable Association (ACA)  
AT&T  
Consumers Electronic Association (CEA)  
CenturyLink  
Combonate Media Group (CMG)  
Consumer Video Choice Coalition (CVCC)  
FilmOn X, LLC (FilmOn)  
Leased Access Producers Association (LAPA)  
National Association of Broadcasters (NAB)  
National Cable and Telecommunications Association (NCTA)  
Netflix  
New England Sports Network (NESN)  
NTCA- The Rural Broadband Association (NTCA)  
Public Knowledge  
The Free State Foundation (Free State)  
UC Oregon TV  
Verizon  
WTA- Advocates for Rural Broadband (WTA)

**Reply Comments**

ACA  
Comcast  
Comptel  
Morgan Wick  
NAB  
NCTA  
TiVo Inc.  
Verizon

## APPENDIX B

## National Video Programming Services

Table B-1

## National Video Programming Services Affiliated with One or More MVPDs

Network Owner	Networks Wholly Owned or Owned in Part
AMC Networks Inc.	AMC, AMC HD, BBC America, BBC America HD, IFC, IFC HD, Sundance Channel, Sundance Channel HD, WE TV, WE TV HD
Bright House Networks	Animal Planet, Animal Planet HD, Discovery Channel, Discovery Channel HD, Discovery Español, Discovery Familia, Discovery Fit & Health, Discovery Fit & Health HD, Destination America, Destination America HD, HD Theater, iN Demand, iN Demand HD, Investigation Discovery, Investigation Discovery HD, American Heroes Channel, American Heroes Channel HD, OWN, OWN HD, Science Channel, Science Channel HD, The HUB, The HUB HD, TLC, TLC HD, Turbo, Velocity HD
Comcast/NBCU	Bravo, Bravo HD, Chiller, Chiller HD, Cloo, CNBC, CNBC HD, CNBC World, CNBC World HD, E! Entertainment TV, E! Entertainment TV HD, Esquire, Esquire HD, Evine Live, FEARnet, FEARnet HD, G4, G4 HD, Golf Channel, Golf Channel HD, iN Demand, iN Demand HD, MLB Network, MLB Network HD, MSNBC, MSNBC HD, mun2, NBC Sports Network, NBC Sports Network HD, NBC Universo, NBC Universo HD, NHL Network, NHL Network HD, Oxygen Network, Oxygen Network HD, PBS Kids Sprout, PBS Kids Sprout HD, Retirement Living TV, SYFY, SYFY HD, Telemundo, Telemundo HD, TV One, TV One HD, The Weather Channel, The Weather Channel HD, Weatherscan, Universal HD, Universal Sports, Universal Sports HD, USA Network, USA Network HD
Cox Communications, Inc.	iN Demand, iN Demand HD, MLB Network, MLB Network HD, Travel Channel, Travel Channel HD
DIRECTV <sup>(1)</sup>	Game Show Network, GSN HD, MLB Network, MLB Network HD, Audience Network, Audience Network HD
Liberty Media Corporation (Starz, LLC)	Animal Planet, Animal Planet HD, Destination America, Destination America HD, Discovery, Discovery HD, Discovery Español, Discovery Familia, Discovery Fit & Health, Discovery Fit & Health HD, Encore, Encore HD, Encore Action, Encore Action HD, Encore Drama, Encore Drama HD, Encore Español, Encore Family, Encore Love, Encore Suspense, Encore Westerns, GAC, HD Theater, HSN, HSN HD, HSN2, Indieplex, Investigation Discovery, Military Channel, Military Channel HD, MoviePlex, OWN, OWN HD, QVC, QVC HD, QVC Plus, QVC Plus HD, RetroPlex, Starz, Starz HD, Starz Cinema, Starz Cinema HD, Starz Comedy, Starz Comedy HD, Starz Edge, Starz Edge HD, Starz in Black, Starz in Black HD, Starz Family, Starz Family HD, Science Channel, Science Channel HD, TLC, TLC HD, The Hub, The HUB HD
Time Warner Cable, Inc.	iN Demand, iN Demand HD, MLB Network, MLB Network HD

**Notes:**

<sup>(1)</sup> On May 18, 2014, AT&T filed a Transfer of Control application with the Commission to acquire DIRECTV. On July 24, 2015, AT&T completes its acquisition of DIRECTV. AT&T, *AT&T Completes its Acquisition of DIRECTV*, (press release), [http://about.att.com/story/att\\_completes\\_acquisition\\_of\\_directv.html](http://about.att.com/story/att_completes_acquisition_of_directv.html).

**Sources:**

AMC Networks Inc., *About Us*, <http://www.amcnetworks.com/about-us/leadership> (last visited Sept. 22, 2015).

Bright House Networks, *About Us*, <http://brighthouse.com/corporate/default> (last visited Sept. 22, 2015).

Cablevision no longer has any national network interests. Cablevision, *About Cablevision*, <http://www.cablevision.com/about/index.jsp>. (last visited Sept. 22, 2015).

Comcast, *Comcast History*, <http://corporateofficehq.com/comcast-corporate-office/> (last visited Sept. 24, 2015).

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Cox Enterprises, *Corporate Overview*, <http://www.coxenterprises.com/about-cox/corporate-overview.aspx> (last visited Sept. 22, 2015).

DIRECTV, *SEC Form 10-Q/A for the Quarterly Period Ending June 30, 2015*, at 6.

DIRECTV, *About Us*, [http://www.directv.com/DTVAPP/content/about\\_us/our\\_company](http://www.directv.com/DTVAPP/content/about_us/our_company) (last visited Sept. 22, 2015).

Liberty Media Corporation, *Company Overview*, <http://www.libertymedia.com/company-overview.aspx> (last visited Sept. 23, 2015).

SNL Kagan, *Economics of Basic Cable Networks* (2014 Edition).

Table B-2

**National Networks Affiliated with a Television Network, Broadcast Television Licensee, or Other Media Company**

<b>Network Owners:</b>	<b>Networks Wholly Owned or Owned in Part</b>
CBS Corporation	AXS TV, AXS HD, CBS Sports Network, CBS Sports Network HD, FLIX, FLIX HD, POP, POP HD, Showtime, Showtime HD, Showtime Beyond, Showtime Beyond HD, Showtime Extreme, Showtime Extreme HD, Showtime Family Zone, Showtime Family Zone HD, Showtime Next, Showtime Next HD, Showtime Showcase, Showtime Showcase HD, Showtime 2, Showtime 2 HD, Showtime Women, Showtime Women HD, Smithsonian Channel, Smithsonian Channel HD, TMC, TMC HD, TMC Xtra, TMC Xtra HD, TVGN, TVGN HD
Crown Media Holdings	Hallmark Channel, Hallmark Channel HD, Hallmark Movie Channel, Hallmark Movie Channel HD
Daystar Television Network	Daystar TV
Discovery Communications	Animal Planet, Animal Planet HD, Destination America, Destination America HD, Discovery, Discovery HD, Discovery Español, Discovery Familia, Discovery Fit & Health, Discovery Fit & Health HD, HD Theater, Investigation Discovery, American Heroes Channel, American Heroes Channel HD, OWN, OWN HD, Science Channel, Science Channel HD, TLC, TLC HD, The Hub, The Hub HD, Velocity HD
Hearst Corporation	A&E, A&E HD, Biography, Biography HD, FYI, FYI HD, Crime & Investigation, Crime & Investigation HD, ESPN Classic, ESPN Deportes, ESPN, ESPN HD, ESPN2, ESPN2 HD, ESPNEWS, ESPNEWS HD, ESPNU, ESPNU HD, Viceland, Viceland HD, <sup>(1)</sup> History, History HD, History en Español, History International, Lifetime, Lifetime HD, Lifetime Real Women, Lifetime Real Women HD, LMN, LMN HD, Military History Channel, SEC Network <sup>(2)</sup> , SEC Network HD
Hubbard Broadcasting Corporation	Reelz Channel, Reelz Channel HD, Ovation TV, Ovation TV HD
InterMedia Partners	Aspire TV, Aspire TV HD, Up TV, Up TV HD, The Sportsman Channel, The Sportsman Channel HD, Universal Sports HD, WAPA-America
Scripps Networks Interactive	Cooking Channel, Cooking Channel HD, DIY Network, DIY Network HD, Food Network, Food Network HD, Great American Country, HGTV, HGTV HD, Travel Channel, Travel Channel HD, WGN America, WGN America HD
The Walt Disney Company	3net, 3 net HD, A&E, A&E HD, Freeform, Freeform HD <sup>(3)</sup> , FYI, FYI HD, Crime & Investigation Network, Crime & Investigation HD, Disney Channel, Disney Channel HD, Disney Junior, Disney Junior HD, Disney XD, Disney XD HD, ESPN Classic, ESPN Deportes, ESPN Deportes HD, ESPN, ESPN HD, ESPN2, ESPN2 HD, ESPNews, ESPNews HD, ESPNU, ESPNU HD, Fusion, Fusion HD, Viceland, Viceland HD, <sup>(1)</sup> History, History HD, History en Español, LMN, LMN HD, Lifetime Real Women, Lifetime TV, Lifetime TV HD, Military History Channel, SEC Network <sup>(2)</sup> , SEC Network HD

Network Owners:	Networks Wholly Owned or Owned in Part
Time Warner Inc. <sup>(4)</sup>	@Max, @Max HD, 5 Star Max, 5 Star Max HD, Action Max, Action Max HD, Boomerang, Cartoon Network/Adult Swim, Adult Swim HD, Cinemax, Cinemax HD, CNN, CNN HD, CNN Airport, CNN Headline News, CNN Español, CNN International, HBO, HBO HD, HBO2, HBO2 HD, HBO Comedy, HBO Comedy HD, HBO Family, HBO Family HD, HBO Signature, HBO Signature HD, HBO Zone, HBO Zone HD, HLN, HLN HD, Max Latino, Max Latino HD, More Max, More Max HD, NBA, NBA HD, NuvoTV, Outer Max, Outer Max HD, TBS, TBS HD, TMC, TMC HD, Thriller Max, Thriller Max HD, TNT, TNT HD, Tru TV, Tru TV HD, WMAX, WMAX HD
21st Century Fox, Inc.	BabyTV, BabyTV HD, BTN, BTN HD, FOX Business Network, FOX Business Network HD, FOX College Sports, FOX College Sports HD, FOX Deportes, FOX Deportes HD, FOX Life, FOX Life HD, FXM, FXM HD, FOX News Channel, FOX News Channel HD, FOX Sports 1, FOX Sports 1 HD, FOX Sports 2, FOX Sports 2 HD, FUEL TV, FUEL TV HD, FX Network, FX Network HD, FXX, FXX HD, Nat Geo WILD, Nat Geo WILD HD, Nat Geo Mundo, National Geographic Channel, National Geographic Channel HD
Viacom Inc.	BET, BET HD, BET Gospel, BET Hip Hop, CENTIC, CMT, CMT HD, CMT Pure Country, CMT Pure Country HD, Comedy Central, Comedy Central HD, LOGO, MTV, MTV HD, MTV Hits, MTV Jams, MTV2, Nick 2, Nickelodeon/Nick at Nite, Nickelodeon/Nick at Nite HD, Nicktoons Network, Nick Jr, Palladia HD, Spike TV, Spike TV HD, TeenNick, EPIX HD, Tr3s, TV Land, TV Land HD, VH1, VH1 HD, VH1 Classic, VH1 Soul
Trinity Broadcasting Network	JCTV, Smile of a Child, TBN, TBN HD, TBN Enclave, The Church Channel
Univision Communications	Bandamax, De Pelicula, De Pelicula Classico, ELREY, ELREY HD, FOROtv, Fusion, Fusion HD, Galavision, Ritmoson Latino, Telehit, Univision Deportes, Univision Deportes HD, Univision Deportes Dos, Univision Noticias, Univision TNovelas

**Notes:**

- (1) Viceland replaced H2 on February 29, 2016. Verne Gray, *Viceland Network Premieres New Shows, Web Favorites*, Newsday, Feb. 27, 2016, <http://www.newsday.com/entertainment/tv/viceland-network-premieres-new-shows-web-favorites-1.11516891>.
- (2) On August 14, 2014, Walt Disney Co and Hearst launched SEC Network. Walt Disney Co., *Notes and Quotes from SEC Networks Debut* (press release), <http://espnmediazone.com/us/press-releases/2014/08/notes-quotes-from-sec-networks-debut/>.
- (3) On January 12, 2016, Walt Disney Company renamed the ABC Family network to Freeform, Disney, *ABC Family Officially Becomes Freeform on January 12*, <https://thewaltdisneycompany.com/abc-family-officially-becomes-freeform-on-january-12/>. (press release) December 10, 2015.
- (4) On July 16, 2015, 21<sup>st</sup> Century Fox of sold its interest in the cable network MundoFox with RCN Television Group, which they in turn, rebranded the network Mundomax. 21<sup>st</sup> Century Fox. *Mundomax Rebrands on Networks 3<sup>rd</sup> Year Anniversary*, (press release), August 13, 2015, <http://www.mediamoves.com/2015/08/mundomax-rebrands-on-networks-3rd-year-anniversary.html>.

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## APPENDIX C

## Regional Video Programming Services

Table C-1

## Regional Video Programming Services Affiliated with One or More MVPDs

Network Owners	Networks Wholly or Owned in Part
Bright House Networks	<p><b>Regional News Networks:</b> Bay News 9, Bay News 9 HD, Bay News 9 en Español, CFN 13 (Central FL News)</p> <p><b>Regional Sports Networks:</b> Bright House Sports Network, Bright House Sports Network HD</p>
Cablevision Systems Corporation	<p><b>Regional News Networks:</b> News 12 CT, News 12 Bronx, News 12 Brooklyn, News 12 Hudson Valley, News 12 Long Island, News 12 NJ, News 12 Traffic &amp; Weather – CT, News 12 Traffic &amp; Weather – Long Island, News 12 Traffic &amp; Weather – Hudson Valley, News 12 Traffic &amp; Weather – NJ, News 12 Traffic &amp; Weather – NY, News 12 Westchester, News 12 Interactive</p>
Comcast/NBCU	<p><b>Regional News Networks:</b> Comcast Charter Sports Southeast, New England Cable News, New England Cable News HD, Pittsburgh Cable News Network</p> <p><b>Regional Sports Networks:</b> Comcast SportsNet Bay Area, Comcast SportsNet Bay Area HD, Comcast SportsNet California, Comcast SportsNet California HD, Comcast SportsNet Chicago, Comcast SportsNet Chicago HD, Comcast SportsNet Mid-Atlantic, Comcast SportsNet Mid-Atlantic HD, Comcast SportsNet New England, Comcast SportsNet New England HD, Comcast SportsNet Northwest, Comcast SportsNet Northwest HD, Comcast SportsNet Philadelphia, Comcast SportsNet Philadelphia HD, Comcast SportsNet Southwest, SportsNet New York, SportsNet New York HD</p>
Cox Communications, Inc.	<p><b>Regional News Networks:</b> 24/7 News Channel, Arizona News Channel, Kansas 22 Now, Las Vegas One News, Local News on Cable (Hampton), News Now 53 (Oklahoma City), News Now 53 (Tulsa), NewsWatch 15 (Louisiana), Pittsburgh Cable News Channel, Rhode Island News Channel, San Diego's News Channel 15</p> <p><b>Regional Sports Networks:</b> Channel 4 San Diego, Channel 4 San Diego HD, Cox Sports Television</p>
DIRECTV	<p><b>Regional Sports Networks:</b> Roots Sports Northwest, Roots Sports Northwest HD, Roots Sports Pittsburgh, Roots Sports Pittsburgh HD, Roots Sports Rocky Mountain, Roots Sports Rocky Mountain HD</p>
Madison Square Garden	<p><b>Regional Sports Networks:</b> MSG, MSG HD, MSG Plus, MSG Plus HD, MSG Varsity</p>

Network Owners	Networks Wholly or Owned in Part	
Time Warner Cable	<p><b>Regional News Networks:</b> Desert Cities TV (Desert City, CA), TWC News (Palmdale, CA), TWC SoCal 101, K-Life (HI), NGN (HI), OC 12 (HI), OC 16 (HI), TWC Local Weather (Kansas City), cn/2 (KY), TWC TV (New England/Portland/Augusta), TWC News NY1, TWC Noticias NY1, TWC News (Buffalo), TWC News (Hudson Valley), TWC News (Jamestown), TWC News (Rochester), TWC Capital Region (Albany), TWC New Central NY (Syracuse), TWC North Country (Watertown), TWC News Southern Tier (Binghamton), TWC News Your Traffic (Albany), TWC News Live Radar (Syracuse), TWC News Rail &amp; Road (Hudson Valley), TWC News Rail &amp; road (NYC), TWC News (Charlotte), TWC News (Greensboro), TWC News (Raleigh), TWC News (Wilmington), TWC Live Radar (Columbia), TWC Local Weather (Cleveland/Akron), TWC News (Austin), TWC (Waco), TWC Local Weather (Austin), TWC Your Traffic (Austin), TWC Noticias Tiempo (Austin), TWC News Live Radar (Austin/ North, Central, South, West, Waco/ Killeen/ Beaumont), TWC News Live Radar (Corpus Christi)</p> <p><b>Regional Sports Networks:</b> TWC 858 (Spanish), TWC Deportes (Spanish), TWC SportsNet (CA/NV), Canal de Tejas (North: Waco/El Paso; South: Austin/San Antonio/Corpus Christi, Laredo), OC 12 (HI), TWC SportsChannel (Kansas City), TWC SportsChannel (NE), TWC Sports (Albany), TWC Sports (Buffalo), TWC Sports (Rochester), TWC Sports (Syracuse), TWC SportsChannel (Cincinnati/Dayton), TWC SportsChannel (Cleveland/Akron), TWC SportsChannel (Columbus/Toledo), Canal de Tajas (North: Dallas, Waco, El Paso; South: Austin, San Antonio, Corpus, RVG, Laredo) (Spanish), TWC SportsChannel (North: Dallas/El Paso; South: Austin/San Antonio/Corpus Christi), TWC Sports (Milwaukee/Green Bay), TWC SportsChannel (Raleigh, Charlotte, Greensboro, Wilmington, NC; Columbia, Florence, Myrtle Beach, SC), SportsNet New York, SportsNet LA, TWC SportsChannel (Milwaukee, Green Bay)</p>	<p><b>Sources:</b></p> <p>Bright House Networks, <i>About Us</i>, <a href="http://brighthouse.com/corporate/default.aspx">http://brighthouse.com/corporate/default.aspx</a> (last visited Sept. 22, 2015).</p> <p>Cablevision, <i>About Us</i>, <a href="http://www.cablevision.com/about/index.jsp">http://www.cablevision.com/about/index.jsp</a> (last visited Sept. 22, 2015).</p> <p>Comcast, <i>Comcast History</i>, <a href="http://corporateofficehq.com/comcast-corporate-office/">http://corporateofficehq.com/comcast-corporate-office/</a> (last visited Sept. 24, 2015).</p> <p>Cox Enterprises, <i>Corporate Overview</i>, <a href="http://www.coxenterprises.com/about-cox/corporate-overview.aspx">http://www.coxenterprises.com/about-cox/corporate-overview.aspx</a> (last visited Sept. 22, 2015).</p> <p>DIRECTV, <i>About Us</i>, <a href="http://www.directv.com/DTVAPP/content/about_us/our_company">http://www.directv.com/DTVAPP/content/about_us/our_company</a> (last visited Sept. 22, 2015).</p> <p>Madison Square Garden,</p> <p>Time Warner Cable, <i>About Us</i>, <a href="http://www.timewarner.com/company/about-us">http://www.timewarner.com/company/about-us</a> (last visited Sept. 24, 2015).</p>

*evision*, <http://www.cablevision.com/about/index.jsp> (last visited Sept. 22, 2015).

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Cox Enterprises, *Corporate Overview*, <http://www.coxenterprises.com/about-cox/corporate-overview.aspx> (last visited Sept. 22, 2015).

DIRECTV, *About Us*, [http://www.directv.com/DTVAPP/content/about\\_us/our\\_company](http://www.directv.com/DTVAPP/content/about_us/our_company) (last visited Sept. 22, 2015).

Madison Square Garden,

Time Warner Cable, *About Us*, <http://www.timewarner.com/company/about-us> (last visited Sept. 24, 2015).

Table C-2

**Regional Networks Affiliated with a National Broadcast Television Network, Broadcast Television Licensee, or Other Media Company**

Network Owners	Networks Wholly or Owned in Part
Scripps Networks Interactive	<b>Regional Sports Networks:</b> FOX Sports South, FOX Sports South HD, SportsSouth, SportsSouth HD
Sinclair Broadcast Group	<b>Regional News Networks:</b> 24/7 News Channel (Boise, ID), Arizona New Channel (Arizona), Local News (Virginia), NewsChannel 8, NewsChannel 8 HD (Washington, DC), NewsWatch 15 (Louisiana), Northwest Cable News (Washington, Oregon, Idaho), TXCN (Texas)
21 <sup>st</sup> Century Fox, Inc.	<b>Regional Sports Networks:</b> FOX Sports Arizona, FOX Sports Arizona HD, FOX Sports Carolinas, FOX Sports Carolinas HD, FOX Sports Detroit, FOX Sports Detroit HD, FOX Sports Florida, FOX Sports Florida HD, FOX Sports Houston, FOX Sports Houston HD, FOX Sports Indiana, FOX Sports Indiana HD, FOX Sports Kansas City, FOX Sports Kansas City HD, FOX Sports Midwest, FOX Sports Midwest HD, FOX Sports New Orleans, FOX Sports New Orleans HD, FOX Sports North, FOX Sports North HD, FOX Sports Ohio, FOX Sports Ohio HD, FOX Sports Oklahoma, FOX Sports Oklahoma HD, FOX Sports San Diego, FOX Sports San Diego HD, FOX Sports South, FOX Sports South HD, FOX Sports Southwest, FOX Sports Southwest HD, FOX Sports Tennessee, FOX Sports Tennessee HD, FOX Sports Utah, FOX Sports Utah HD, FOX Sports West and Prime Ticket, FOX Sports West and Prime Ticket HD, FOX Sports Wisconsin, FOX Sports Wisconsin HD, SportSouth, SportSouth HD, SportsTime Ohio, SportsTime Ohio HD, Sun Sports, Sun Sports HD, Yankee Entertainment & Sports (YES) Network, Yankee Entertainment & Sports (YES) Network HD

**Sources:**

Scripps Network Interactive, *Our Company*, <http://www.scrippsnetworksinteractive.com/our-company> (last visited Sept. 24, 2015).

Sinclair Broadcast Group, *About*, <http://sbg.net/> (last visited Sept. 24, 2015).

21st Century Fox, Inc., *Businesses, Cable Network Programming*, [http://www.21cf.com/Business\\_Segments/Business\\_Units/](http://www.21cf.com/Business_Segments/Business_Units/) (last visited Sept. 24, 2015).

## APPENDIX D

Regional Sports Networks<sup>(1)</sup>

Regional Network Name	MVPD Owner	Other Owners
Altitude Sports Network		Stan Kroenke (owner of the Denver Nuggets and the Colorado Avalanche)
Altitude Sports Network HD		Stan Kroenke (owner of the Denver Nuggets and the Colorado Avalanche)
Bright House Sports Network	Time Warner Cable	
Bright House Sports Network HD	Time Warner Cable	
Big Ten Network		Big Ten Conference, News Corporation
Big Ten Network HD		Big Ten Conference, News Corporation
Channel 4 San Diego	Cox Communications	
Channel 4 San Diego HD	Cox Communications	
Comcast SportsNet Bay Area	Comcast/NBCU	San Francisco Giants
Comcast SportsNet Bay Area HD	Comcast/NBCU	San Francisco Giants
Comcast Sports Net California	Comcast/NBCU	
Comcast SportsNet California HD	Comcast/NBCU	
Comcast SportsNet Chicago	Comcast/NBCU	J. Joseph Ricketts (owner of the Cubs), Jerry Reinsdorf (owner of the Bulls and the White Sox), Rocky Wirtz (owner of the Blackhawks)
Comcast SportsNet Chicago HD	Comcast/NBCU	J. Joseph Ricketts (owner of the Cubs), Jerry Reinsdorf (owner of the Bulls and the White Sox), Rocky Wirtz (owner of the Blackhawks)
Comcast SportsNet Houston	Comcast/NBCU	Houston Astros, Houston Rockets
Comcast SportsNet Houston HD	Comcast/NBCU	Houston Astros, Houston Rockets
Comcast SportsNet Mid-Atlantic	Comcast/NBCU	
Comcast SportsNet Mid-Atlantic HD	Comcast/NBCU	
Comcast SportsNet New England	Comcast/NBCU	
Comcast SportsNet New England HD	Comcast/NBCU	

<b>Regional Network Name</b>	<b>MVPD Owner</b>	<b>Other Owners</b>
Comcast SportsNet Northwest	Comcast/NBCU	
Comcast SportsNet Northwest HD	Comcast/NBCU	
Comcast SportsNet Philadelphia	Comcast/NBCU	Philadelphia Phillies
Comcast SportsNet Philadelphia HD	Comcast/NBCU	Philadelphia Phillies
Comcast SportsNet Washington	Comcast/NBCU	
Comcast SportsNet Washington HD	Comcast/NBCU	
Comcast Sports Southwest	Comcast/NBCU	
Comcast Sports Southwest HD	Comcast/NBCU	
Cox Sports Television (New Orleans)	Cox Communications	
Cox Sports Television HD (New Orleans)	Cox Communications	
Fox Sports Arizona		21 <sup>st</sup> Century Fox
Fox Sports Arizona HD		21 <sup>st</sup> Century Fox
Fox Sports Carolinas		21 <sup>st</sup> Century Fox
Fox Sports Carolinas HD		21 <sup>st</sup> Century Fox
Fox Sports Detroit		21 <sup>st</sup> Century Fox
Fox Sports Detroit HD		21 <sup>st</sup> Century Fox
Fox Sports Florida		21 <sup>st</sup> Century Fox
Fox Sports Florida HD		21 <sup>st</sup> Century Fox
Fox Sports Houston		21 <sup>st</sup> Century Fox
Fox Sports Houston HD		21 <sup>st</sup> Century Fox
Fox Sports Indiana		21 <sup>st</sup> Century Fox
Fox Sports Indiana HD		21 <sup>st</sup> Century Fox
Fox Sports Kansas City		21 <sup>st</sup> Century Fox
Fox Sports Kansas City		21 <sup>st</sup> Century Fox
Fox Sports Midwest		21 <sup>st</sup> Century Fox
Fox Sports Midwest HD		21 <sup>st</sup> Century Fox
Fox Sports New Orleans		21 <sup>st</sup> Century Fox
Fox Sports New Orleans HD		21 <sup>st</sup> Century Fox
Fox Sports North		21 <sup>st</sup> Century Fox
Fox Sports North HD		21 <sup>st</sup> Century Fox
Fox Sports Ohio		21 <sup>st</sup> Century Fox
Fox Sports Ohio HD		21 <sup>st</sup> Century Fox

<b>Regional Network Name</b>	<b>MVPD Owner</b>	<b>Other Owners</b>
Fox sports Oklahoma		21 <sup>st</sup> Century Fox
Fox Sports Oklahoma HD		21 <sup>st</sup> Century Fox
Fox Sports San Diego		21 <sup>st</sup> Century Fox
Fox Sports San Diego HD		21 <sup>st</sup> Century Fox
Fox Sports South		21 <sup>st</sup> Century Fox
Fox Sports South HD		21 <sup>st</sup> Century Fox
Fox Sports Southwest		21 <sup>st</sup> Century Fox
Fox Sports Southwest HD		21 <sup>st</sup> Century Fox
Fox Sports Tennessee		21 <sup>st</sup> Century Fox
Fox Sports Tennessee HD		21 <sup>st</sup> Century Fox
Fox Sports Utah		21 <sup>st</sup> Century Fox
Fox Sports Utah HD		21 <sup>st</sup> Century Fox
Fox Sports West		21 <sup>st</sup> Century Fox
Fox Sports West HD		21 <sup>st</sup> Century Fox
Fox Sports Wisconsin		21 <sup>st</sup> Century Fox
Fox Sports Wisconsin HD		21 <sup>st</sup> Century Fox
Lakers RSN	Time Warner Cable	
Lakers RSN HD	Time Warner Cable	
Lakers RSN (Spanish language)	Time Warner Cable	
Lakers RSN HD (Spanish language)	Time Warner Cable	
Longhorn Network		Walt Disney Company and Hearst
Longhorn Network HD		Walt Disney Company and Hearst
MASN HD		Baltimore Orioles and the Washington Nationals
MASN		Baltimore Orioles and the Washington Nationals
Metro Sports (Kansas City)	Time Warner Cable	
Metro Sports HD (Kansas City)	Time Warner Cable	
Metro Sports (Nebraska)	Time Warner Cable	
MSG	Cablevision	
MSG HD	Cablevision	
MSG Plus	Cablevision	
MSG Plus HD	Cablevision	

<b>Regional Network Name</b>	<b>MVPD Owner</b>	<b>Other Owners</b>
NESN		Boston Red Sox and Boston Bruins
NESN HD		Boston Red Sox and Boston Bruins
OC 12 (Hawaii)	Time Warner Cable	
OC HD (Hawaii)	Time Warner Cable	
PAC-12 Network		PAC-12 Conference
PAC-12 Network HD		PAC-12 Conference
ROOT Sports: Northwest	DIRECTV Sports Networks	
ROOT Sports: Northwest HD	DIRECTV Sports Networks	
ROOT Sports: Pittsburgh	DIRECTV Sports Networks	
ROOT Sports: Pittsburgh HD	DIRECTV Sports Networks	
ROOT Sports: Rocky Mountain	DIRECTV Sports Networks	
ROOT Sports: Rocky Mountain HD	DIRECTV Sports Networks	
ROOT Sports: Southwest	DIRECTV Sports Networks	
ROOT Sports: Southwest HD	DIRECTV Sports Networks	
SportsNet LA	Time Warner Cable	Los Angeles Dodgers
SportsNet LA HD	Time Warner Cable	Los Angeles Dodgers
SportsNet New York	Comcast, TWC	
SportsNet New York HD	Comcast, TWC	
SportsSouth		21 <sup>st</sup> Century Fox
SportsSouth HD		21 <sup>st</sup> Century Fox
SportsTime Ohio		21 <sup>st</sup> Century Fox
SportsTime Ohio HD		21 <sup>st</sup> Century Fox
Sun Sports		21 <sup>st</sup> Century Fox
Sun Sports HD		21 <sup>st</sup> Century Fox
TWC Sports (Albany)	Time Warner Cable	
TWC Sports HD (Albany)	Time Warner Cable	
TWC Sports (Buffalo)	Time Warner Cable	
TWC Sports HD (Buffalo)	Time Warner Cable	

Regional Network Name	MVPD Owner	Other Owners
TWC Sports (Rochester)	Time Warner Cable	
TWC Sports HD (Rochester)	Time Warner Cable	
TWC Sports (Syracuse)	Time Warner Cable	
TWC Sports HD (Syracuse)	Time Warner Cable	
TWC Sports 2 (Syracuse)	Time Warner Cable	
TWC Sports (Columbus/Toledo)	Time Warner Cable	
TWC Sports HD (Columbus/Toledo)	Time Warner Cable	
TWC Sports (Cincinnati/Dayton)	Time Warner Cable	
TWC Sports HD (Cincinnati/Dayton)	Time Warner Cable	
TWC Sports (Cleveland/Akron)	Time Warner Cable	
TWC Sports HD (Cleveland/Akron)	Time Warner Cable	
TWC Sports 858 (Spanish)	Time Warner Cable	
TWC Deportes (Spanish)	Time Warner Cable	
TWC SportsNet (California/Nevada)	Time Warner Cable	
TWC SportsNet HD (California/Nevada)	Time Warner Cable	
TWC Sports (Kansas City)	Time Warner Cable	
TWC Sports HD (Kansas City)	Time Warner Cable	
TWC Sports 2 (Kansas City)	Time Warner Cable	
TWC Sports 2 HD (Kansas City)	Time Warner Cable	
TWC Sports (NC: Raleigh/Charlotte/Greensboro/Wilmington; SC: Columbia/Florence/Myrtle Beach)	Time Warner Cable	
TWC Sports (Nebraska)	Time Warner Cable	
TWC Sports HD (Nebraska)	Time Warner Cable	
TWC Sports 32 HD (Milwaukee/Green Bay)	Time Warner Cable	
TWC Sports 32 HD (Milwaukee/Green Bay)	Time Warner Cable	
Texas Channel (North: Dallas/El Paso; South: Austin/San Antonio/Corpus)	Time Warner Cable	
Canal de Tejas (North: Dallas/Waco/El Paso, South: Austin/San Antonio/Corpus/Laredo) (Spanish)	Time Warner Cable	
TWC Sports (NC: Raleigh/ Charlotte/ Greensboro/ Wilmington, SC: Columbia/ Florence/ Myrtle Beach)	Time Warner Cable	
Yankee Entertainment & Sports (YES) Network (New York)		Yankee Entertainment, 21 <sup>st</sup> Century Fox

Regional Network Name	MVPD Owner	Other Owners
Yankee Entertainment & Sports (YES) Network HD (New York)		Yankee Entertainment, 21 <sup>st</sup> Century Fox

**Notes:**

<sup>(1)</sup> This list is provided for illustrative purposes only. Inclusion or exclusion of a network should not be read to state or imply any position as to whether the network qualifies as an RSN as defined by the Commission.

<sup>(2)</sup> In November 2014, DIRECTV and AT&T acquired Comcast SportsNet Houston and Comcast SportsNet Houston HD. The network is now named ROOT Sports Southwest. DIRECTV, *New Network Under DIRECTV and AT&T Ownership to Re-launch in Four Times as Many Households For 2014-15 Rockets Season and 2015 Astros Season* (press release), Nov. 17, 2014.

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